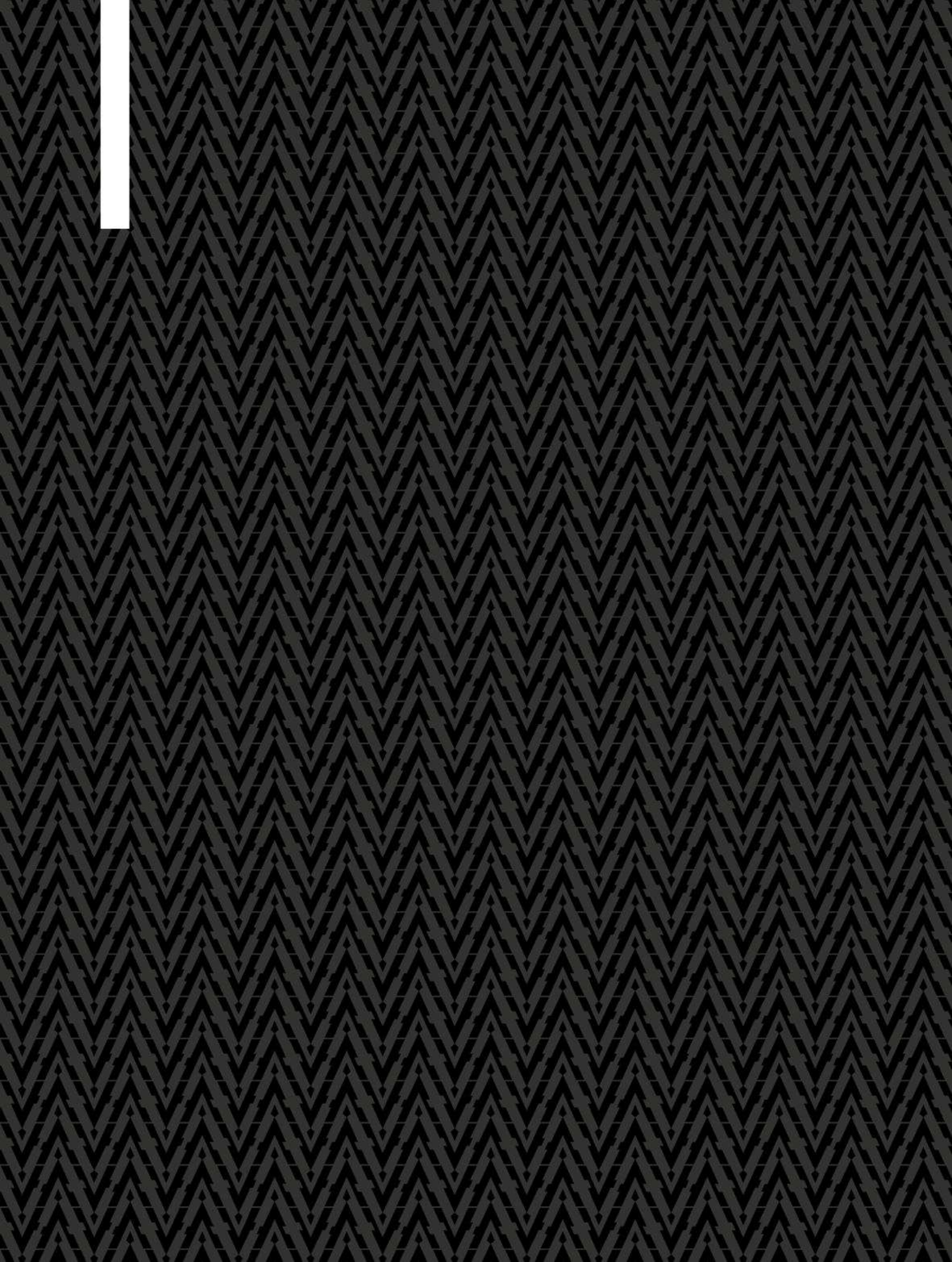


BATTLEFIELD V METRO EXODUS BLACK OPS IIII
EDGE
THE FUTURE OF INTERACTIVE ENTERTAINMENT
STARLINK
BATTLE FOR ATLAS
EXCLUSIVE HOW UBISOFT'S STELLAR SPACE OPERA IS BRINGING TOYS-TO-LIFE BACK FROM THE DEAD
REVIEWED
DETROIT: BECOME HUMAN
STATE OF DECAY 2
LASER LEAGUE
DESTINY 2: WARMIND
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AUGUST 2018



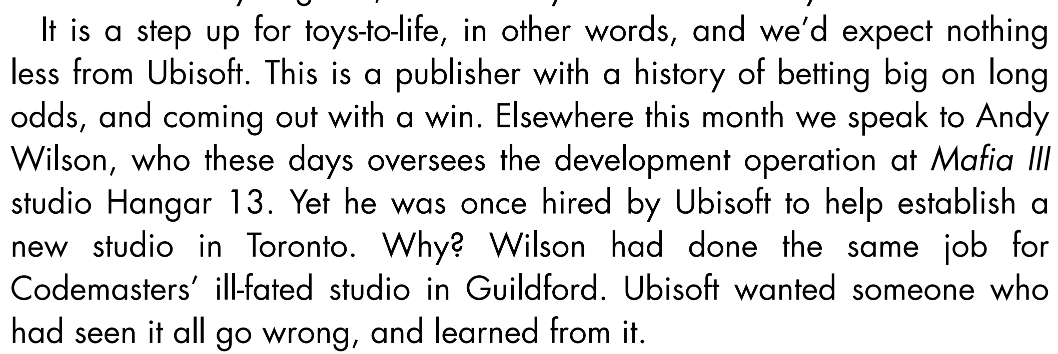
That wasn't flying. That was falling with style

Yes, that's a toys-to-life game on the cover of **Edge**. A genre you thought was gone for good following the demise of *Disney Infinity* and the disappearance of *Skylanders*. Yet *Starlink: Battle For Atlas* is an entirely different beast. Where Warner and Activision aimed their wares at the very young, Ubisoft's game skews a little older. And that's not just a matter of presentation: this is a tricky game set in a dynamic world that responds to your input, and your lack of it, the bad guys overrunning the entire solar system if you don't keep them in check. The toys themselves aren't just plastic playthings to be dropped, one by one, onto an NFC scanner; they're modular, their components snapped off and on, the change reflected instantly in game, both visually and mechanically.



Exclusive subscriber edition

It is a step up for toys-to-life, in other words, and we'd expect nothing less from Ubisoft. This is a publisher with a history of betting big on long odds, and coming out with a win. Elsewhere this month we speak to Andy Wilson, who these days oversees the development operation at *Mafia III* studio Hangar 13. Yet he was once hired by Ubisoft to help establish a new studio in Toronto. Why? Wilson had done the same job for Codemasters' ill-fated studio in Guildford. Ubisoft wanted someone who had seen it all go wrong, and learned from it.



Elsewhere, in An Audience With... we speak to Jade Raymond, who these days is general manager of EA's Montreal studio, Motive. A decade or so ago Raymond, a programmer by trade, interviewed at Ubisoft. She was asked, almost off the cuff, what she thought the future of *Prince Of Persia* should look like. She answered, in effect, *GTAIII*. She was hired, and assigned to a small team working on a new IP. Within ten years, sales of the *Assassin's Creed* series had exceeded 100 million units.

These are the reasons why *Starlink* graces our cover this month. Sure, the toys-to-life genre looks dead. But there's no publisher on the planet with a better chance of resurrecting it. Our story begins on p56.









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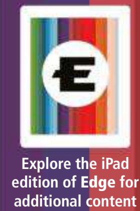
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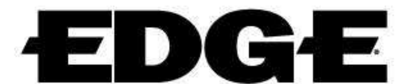
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GDPR has changed the rules for what data games can gather on you, but the finer points are still unclear

Quietly, games are watching what you're doing. They remember when you started playing, what weapons you like to use, who's winning, where you meet your end, where you quit, and they report that information back to their makers. "Potentially, every action that you perform in a game can be tracked because games are state machines," says **Anders Drachen**, professor at the Digital Creativity Labs at the University of York. "You push a button and something happens; we can track those behaviours."

And that means that they're also squarely in the sights of the EU's General Data Protection Regulation (GDPR), which came into force on May 25. "For games, GDPR has had a really big impact," **Eitan Jankelewitz**, partner at legal firm Sheridans, tells us. As with seemingly every web service and site in the world, game developers and publishers have been hurriedly changing their practices and updating their privacy policies to comply, and they're as sick of it as you are. Perhaps more so: some games have been closed down as a direct result of the new regulations. "It stifles tech considerations," says **Joe Adams**, chief financial officer at mobile studio Space Ape Games, developer of *Samurai Siege*. "It causes some disadvantage that's unnecessary, but I do sympathise with the lawmakers in terms of how they can separate out industries."



Anders Drachen is a professor specialising in game analytics

GDPR is highlighting a practice in games that has risen as they've become more connected but never really been publicly acknowledged. But it's important

to note that developers' rush to compliance isn't an indication of them having previously been unlawfully or unethically gathering data on players. It's not even as if they're gathering as much data as they can. "We're not in a situation where everything gets tracked, because it's not feasible in terms of bandwidth or in terms of the value we get from analysing the data," Drachen says.

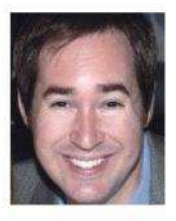
In general, data-gathering has been helping to make games better. "We want to make sure that people have a good user experience," says Drachen. If a mobile game with 60 levels tracks how many players complete each one, and the data indicates a disparity in level completions between levels 11 and 12, the developer knows there must be some kind of issue there that's causing players to drop out. The same goes with games on Steam, which as a platform reports to developers how many people have their game installed, how long they play and many other things. With game analytics the world becomes a QA department, allowing developers to debug the player experience and make their games better.



Eitan Jankelewitz is a partner at law firm Sheridans

Naturally, game analytics is also used to help monetise them. "Game developers can use GameAnalytics to track special types of events, such as in-app purchases, use of virtual currencies, progress through levels or stages, player interaction with ads or game design elements, or even errors," says **Ioana Hreninciuc**, chief operating officer at middleware company GameAnalytics, which focuses on player retention and monetisation through ads ▶









FROM TOP **Ioana Hreninciuc, COO of GameAnalytics; Edge of Reality founder Rob Cohen; Xiotex's Byron Atkinson-Jones; Space Ape CFO Joe Adams**

or in-app purchases. "Pretty much any type of player activity or interaction, and its parameters, can be tracked."

If the data shows that players tend to buy a certain item on Saturday mornings in the UK, for example, then it might be an idea to reduce its price at that time in that region to encourage even more sales. In the purest terms, game analytics applied to monetisation can be used to deliver more of what players want, and few developers are interested in fine-grained and personal data about individuals.

"We're not doing anything that sensitive," Adams says. "We're not making decisions about people's credit history or talking about their medical records. Hopefully people understand that in order to be able to play their game we have to collect certain bits of data, but we're not collecting *extraneous* data." A lot of the data that Space Ape has previously held about its players, including IP addresses and personal identifiers, is specifically to allow players to connect to their servers and to own virtual items in their accounts. Without it, they couldn't run the game. "The analytics, on the other hand, while we're doing a tremendous amount of it, the data is anonymised," Adams continues, explaining that he's not interested in individuals' behaviour, but in the aggregated data of the million-or-so players of Space Ape's games. The more data he gets, the better.

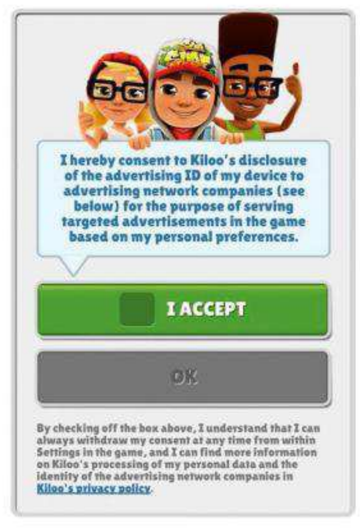
But while most industry insiders feel that it's very rare to find game companies misusing personal data, GDPR is applied to all industries equally, whether they're Facebook and Google or Rovio and Steam. And one of the key challenges to the game industry is that it's the first regulation that considers so-called 'pseudonymous' data as personal data. Analytics is usually performed by attaching data relating to an individual person or device to an anonymised profile. With GDPR, even though that data can't directly be traced to a person, suddenly it's become regulated. And it should be, because of what's called the 'mosaic effect'. If multiple anonymised data sets are combined, personally traceable data can emerge from them. Hence the name 'pseudonymous'.

"It doesn't mean it's unlawful to collect pseudonymous data, but it does mean a company has to justify its lawfulness," says Jankelewitz, who's been submerged in helping game companies figure out how to become GDPR-compliant for the past several months. "It's a case of going through what you've got and why you've got it. The real question is, why do you process that data? When you understand why, you can look at each purpose, what data is being processed, and you can do a legal analysis of it and say it's lawful under GPDR for this reason."

> "Hopefully people understand that in order to be able to play their game we have to collect certain bits of data"

One of the main legal justifications for holding data on people is for when a company has to process that data to deliver the contract it's entered into with that person. So if an end-user licence agreement mentions that the game will remember where a player ends a play session so they can resume where they left off, it can capture such data as how many lives were lost, where in the world they are, and what they're carrying, because that's what the game needs to carry out its part of the deal. That's fairly clear cut.

Less clear cut but just as important is a principle called legitimate interest, which is about comparing the privacy cost of data capture with the benefits to an individual. A developer might want to gather data that can help them find bugs in the game, and here the privacy cost to the player is probably outweighed by the benefit to them of playing a bug-free game. "You have to make sure that interest you're pursuing is more compelling than the impact on the individual," Jankelewitz says. It's all about proportionality: anti-cheating measures tend to come with high costs to privacy, but that's balanced by the great benefit they afford in stopping game-destroying aimbots and wallhacks.



Kiloo's *Subway Surfers* (above) and Rovio's *Angry Birds* (right) ask players to consent to updated terms of service, with varying levels of clarity

On the other hand, if a developer wants to study player behaviour so it can introduce discriminatory pricing, pushing up prices for specific types of player who are likely to pay higher, the data is definitely not in the player's interest. And that's when a developer needs consent from the player to gather it. Consent is essentially a fallback for cases in which data gathering doesn't benefit the player and isn't part of the player's contract with the developer. "GDPR doesn't let you get away with much," Jankelewitz says.

Developers have approached compliance in various ways. Space Ape went through its data to separate out and delete unique identifiers so it wouldn't come under GDPR's jurisdiction. The remaining identifiable data allows Space Ape's players to own virtual items and connect to its servers, and is therefore covered. Adams says he got just three player requests for Space Ape to delete all their personal data, and two of them rescinded when they learned it'd mean they'd lose the items they'd bought.

Other companies, usually the largest and best-funded, have slapped "We've updated our Terms of Service and Privacy Policy" notices on launching their games (see 'Presenting consent'). Some games have been closed down, such as Uber Entertainment's *Super Monday Night*

Combat and Edge Of Reality's *Loadout*. "*Loadout* only used 'personal data' to authenticate users, tune gameplay, and diagnose bugs, all things that benefit users," Edge Of Reality founder **Rob Cohen** tells us. "The trouble is that GDPR requires some very specific methods and processes for handling user data. There are very steep penalties, ten to 20 million euros, and no exceptions for small companies or legacy products."

Being an online service, everything *Loadout* did involved personal data, and compliance required changes across the board. "For a six-year-old product in its twilight, we just can't afford to make major changes like that, so we had no choice but to shut it down, rather than risk astronomical penalties."

It's also affected smaller indies, such as Xiotex. After having attended a couple of briefings at UK trade body UKIE, like many other similarly sized studios, Xiotex founder **Byron Atkinson-Jones** decided to strip out all analytics from his game *Blast 'Em*, not because he was sure he absolutely needed to, but just to be safe. The flexibility in the regulations means that exactly what's kosher isn't entirely clear. But in updating the game to the latest version of Unity so he could make changes, the legacy thirdparty library he'd originally used to integrate with Steam's services broke. Facing the labour-intensive need to manually reintegrate achievements and high-score logging, he was forced to update it without them, upsetting some players. "That was the impact on me, releasing a game that wasn't fully feature-complete, just to comply with the rules," he says.



Multiplayer team-based shooter *Loadout* was closed by developer Edge of Reality because, although it was only released in 2014, its playerbase was too small for it to be financially feasible to make it GDPR-compliant

Atkinson-Jones values the protection and transparency that GDPR has brought to personal data, but already misses having analytics data to use to improve his games. "Once we're clearer on the rules for analytics and what we can use, I hope I can put them back in, but until then, it's too much of a risk." But Jankelewitz estimates it's going to take a while. "We have some guidance from the regulators on how the obligations should be complied with, but in practice we're still trying to find our feet, so over the next couple of years we'll begin to see a bit of consolidation in how businesses communicate their data use."

Adams is also waiting to find out, but estimates rather longer. "Maybe there will be more to do if a gaming company gets hauled over," he says. "But hopefully the case law will show we've done enough, and hopefully we've done too much. But it'll be ten years before we've really figured it out." ■

PRESENTING CONSENT

From Zynga to King, one of the key ways mobile developers are approaching GDPR compliance is to slap new TOCs and privacy policies on their services for players to agree to when they next launch the game. "Our guideline is for game developers and publishers to request consent from players so that their data can be used for marketing and analytics purposes," says GamesAnalytics' Hreninciuc. But she acknowledges that asking for consent can be a blocker. Building an onboarding process that successfully gets permission while also being fun is a challenge. And if you don't like the rules? "While we all experience annoying ads, it's very simple to leave the game until the developer fixes their monetisation strategy," Hreninciuc says. "Game devs watch the balance of ads shown and subsequent user engagement closely, so simply not returning to the game sends a very strong signal."

Beach house

Why Hangar 13, maker of Mafia III, is expanding to the UK seaside

Hangar 13's new Brighton studio began, like so many of the good things in life, over a pint. **Andy Wilson** and **Nick Baynes** worked together, years ago, at Black Rock, the developer of *Split/Second* that was shut down by parent company Disney in 2011. They've taken very different paths since. Wilson went off to build a studio for Codemasters in Guildford, then helped Ubisoft do likewise in Toronto, before joining Hangar 13 in 2014. Baynes stayed local, working in small, agile indie teams after years on the console-game treadmill. Yet he and his core team had been feeling the itch a bit. They yearned for a big project.

"We'd still meet at E3s and GDCs for a quick catch-up and a beer," Baynes tells us, going on to recall the meeting at GDC 2017 that would birth a whole new studio. "I was just saying to Andy that we wanted to get back into console development, that we had big ambitions and a hungry team that had learned a lot. It was a purely innocent conversation, but unbeknownst to me Hangar 13 had been discussing growing in other locations. It started to make sense."

It's the nation's unique talent pool that is the driving factor behind Hangar 13's expansion here

Fifteen months later, Hangar 13's new Brighton studio has opened its doors. It's the fourth studio to bear the name; in addition to its HQ in Novato, California, it also has satellite operations in Brno and Prague in the Czech Republic (*Mafia II* developer 2K Czech was folded in to Hangar 13 last year). While still a small team – when we speak, Baynes says the headcount is less than 20 – the studio is expanding rapidly, and is currently hiring in just about every discipline.

This is a curious move, in a way: the uncertainties of Brexit, and the effect it will have on the UK's economy and job market, make this an odd time to move into the UK. Yet for Wilson, the benefits of setting up in Brighton far outweigh the potential risks. First, he thinks it's healthier for a business to have multiple teams of modest size, instead of one colossal one. There's a philosophical element to it as well: "A lot of it's to do with how *Mafia III* developed. We tackled some difficult subject matter with that game, and we went through an extended period where we felt like we were walking a tightrope, and it could have gone disastrously wrong in a number of ways. One of the things we learned is that culturally, we're just a better developer the more diverse we are. Having a studio that's formed of lots of different locations across the globe helps, because it enables us to bring in a lot of cultural perspectives."

A multinational structure, meanwhile, means the company is protected to a certain extent by issues affecting one particular country. If the UK does indeed struggle after Brexit, the other studios can prop it up. Similarly, if the US economy should nosedive, its impact on Hangar 13 would be lessened somewhat. And while the UK makes sense for a studio that previously operated between California and the Czech Republic ("We have this almost 20-hour rolling workday," Wilson says), it's the nation's unique talent pool that is the driving factor behind Hangar 13's expansion here, Brexit be damned.

"There's this huge group of developers with console experience – people like Nick, and the team from *Split/Second*, a bunch of whom we've got in the Brighton studio already," Wilson says. "It's a way of tapping into this pool of really talented, experienced people who maybe don't have so many options to work in console in the UK – because those options did recede away, particularly around 2010, 2011, when the triple-A industry melted away. For us there's a clear opportunity there that just doesn't exist anywhere else." Baynes adds that those other opportunities don't offer much ownership over a project: "There are a number of studios that are doing some co-dev with other developers, maybe doing some tech to support the bigger team in Canada or wherever. One of the attractions to this is being part of a team that's creating new experiences that you've got a chance to own, and build, and work on from the start."





Nick Baynes (top) and Andy Wilson



So what, exactly, will they be building? Both men have been around the block enough times to give much away, and Wilson doesn't plan to show Hangar 13's hand for 18 months or so. But it sounds like we shouldn't simply expect more of the same from the maker of *Mafia III*. "Along the course of the project we decided that there were certain things that were going to remain important to the studio, no matter what we were working on. One of the big things there is narrative, but that doesn't mean we always have to make singleplayer experiences, or experiences of the nature of *Mafia III*. What's interesting to us is, could we take a pillar like narrative and apply it in different ways, or in different genres or types of games, that would result in something new? We've brought on some very specific people for very specific reasons, and it's not just because we plan on rinsing and repeating the same kind of project forever." ■

Baynes' fledgling Brighton team contains a mix of vets and hungry young developers





Mafia III was an ambitious debut for the studio, and if the critical response was mixed, the commercial one was anything but: 4.5 million copies were shipped within a week



GLOBAL OVERGROUND

Striking a balance between autonomy and collaboration



Hangar 13 thinks of itself as one team spread across four locations – though the need for individual studios to have ownership and autonomy means that the global operation isn't entirely holistic. "Each studio has to have a set of mandates," Wilson says, "so you don't have the Death Star over in California and then a bunch of co-devs. We take individual areas and say, 'Okay, we're going to build a team that's going to be the owner of, and experts in, one particular area'." Yet efforts are being made to ensure handfuls of staff work directly with overseas colleagues. "That's helpful, because it drives collaboration."

COLD CASE

How Stave Studios' spy adventure crystallises the thrill of being a secret agent

Somewhere between mobile game *80 Days* and Wes Anderson's The Grand Budapest Hotel, *Over The Alps* is a World War II-era thriller that casts you as a secret agent. On the trail of a grand conspiracy, you'll pore over found objects scattered across your desk, don disguises, and send hidden messages written in invisible ink. "I was inspired by interwar Swiss design seen in travel posters, matchbooks, postcards, stamps and even beer mats, though I was keen to give it a modern twist to avoid pastiche," artist **Joshua Callaghan** says of his colourful, clean design.

A less obvious influence on *Over The Alps*' pastel subterfuge is space-strategy game *FTL*. You're constantly tailed by the Spycatcher, who is quick to spot your every mistake, be it a poor choice or sloppy traces of your work. "We're hoping to capture the tension of the chase as well as *FTL* did, along with its sense of being an underdog in enemy territory," developer **Samuel Partridge** tells us.

Narrative designer Cash DeCuir has even watched declassified training videos from the period to help inform his scenarios. The mix of quirky art and sharp storytelling portrays both the stylish fantasy and grim reality of being a spy. "We want to show both the glamour, the grit, and the juxtaposition of the two," Callaghan says. "This is a secret war in a romantic alpine backdrop, but one set in humanity's darkest hour – and with deadly consequences." *Over The Alps* plans to sneak onto PC and iOS later this year. ■

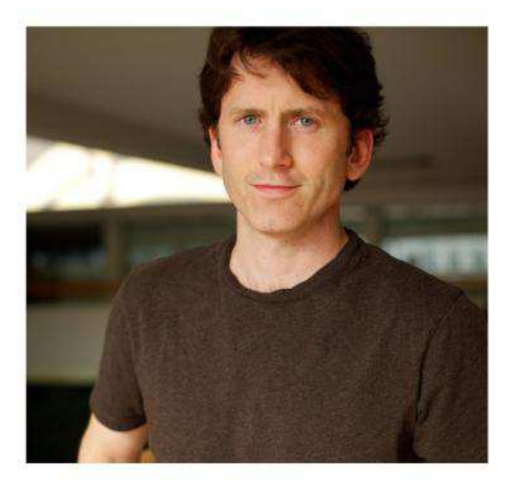




The graphic art style keeps the user experience simple while the complex mystery unfolds – especially on small screens. "I actually started with a more painterly, highly detailed approach but that quickly made the game feel cluttered," Callaghan says

Soundbytes

Game commentary in snack-sized mouthfuls



"We have had over **two million unique visitors** to this stream to watch, I don't know what, nothing."

Todd Howard finally appears on Bethesda's 24-hour stream of emptiness to announce *Fallout 76*



"Let me be clear about one thing. Player choice and **female playable characters** are here to stay."

Strong stuff from DICE GM **Oskar Gabrielson**, but he probably thought the same about loot boxes this time last year, too



"Some days feel amazing, and you know that **everything's gonna be just fantastic**. And then the next day it feels like it's all falling apart."

Media Molecule's **Siobhan Reddy** further strengthens our belief that making games are essentially identical to making magazines about them

"These in-game transactions **are not gambling**. Videogames never take money from a player and leave them with nothing."



ESA president **Mike Gallagher** must have got his copy of *Yaiba: Ninja Gaiden Z* for free

ARCADE WATCH

Keeping an eye on the coin-op gaming scene



Game *Halo: Fireteam Raven*
Manufacturer Raw Thrills, Play Mechanix

We didn't see this coming, and neither did those who tuned in to Microsoft's recent Inside Xbox stream for some promised *Halo* news. The result was not a new console game, but *Halo: Fireteam Raven*, a ludicrously high-spec arcade cabinet developed by Raw Thrills and Play Mechanix, in close consultation with current *Halo* steward 343 Industries.

The game itself is, predictably, an on-rails shooter, casting up to four players as an ODST squad supporting Master Chief during the events of *Halo: Combat Evolved*. Familiar Covenant enemies, classic weapons such as the Needler, and vehicles including the Warthog help elevate the action to an extent, but fundamentally this is the same kind of game we were playing in arcades decades ago.

Instead, it's the production values that make it stand out. The cabinet itself is an 11-foot cube; inside are four mounted gun turrets, and two 4k screens joined together to form a 130-inch display. Play Mechanix's new engine – together, presumably, with more powerful hardware than you'd expect to find in a typical arcade shooter – ease the burden of running a game across twin 4k displays.

A QR code system will link to Halo Waypoint, allowing players to keep track of their stats. You'll also be able to sync up to an Xbox Live account for unspecified rewards. On test now at Dave & Busters locations across the US and Canada, *Fireteam Raven* will begin rolling out worldwide this autumn, giving arcade owners everywhere a few months to work out where the heck they can fit it in.

My Favourite Game
Paul Rose

The artist better known as Scuba on rubber keys, reviving Street Fighter, and a mid-life time-trial crisis

Paul Rose is an electronic-music producer, DJ and label boss. Under the name Scuba, Rose has released four studio albums on his label Hotflush Recordings. With his latest project, Caibu, made under his more techno-influenced alias SCB, now on shelves, we caught up with him to reflect on a life, and career, defined by technology.

What's your earliest gaming memory?
I must have been seven or eight, and my dad came back with a rubber-key Spectrum 32k one evening. He plugged it into the telly – it was one of those ones you had to hook up to a cassette deck. And for the next seven or eight years, I was just totally hooked.

What games did you play most?
The one that really sticks out was a budget game called *The Curse Of Sherwood*. The first game I ever completed was *Star Raiders II*, which is also quite obscure I suppose. The *Dizzy* games I played to death, and *Jet Set Willy* too. I had hours of fun with the Spectrum, but the rubber keys and the cassette deck… it's just mind-blowing, thinking about it now. The +2 had a built-in tape deck, which was like a light-year jump in technology.

We were happy just getting away from rubber keys.
Totally. Fast forward a bit, it was from that to Amiga, and then Amiga to Super Nintendo. That was the first console I got. I think *Zelda* [*A Link To The Past*] was the game I got with it, and that was a totally life-changing experience. I've got the OpenEmu emulator, and a Bluetooth Super Nintendo pad, and I still play *Zelda*, even though I've gone through it so many times.

SMART MOVES
Rose's work as Scuba was a dancefloor fixture in the early days of dubstep, and his Hotflush label was too thanks to releases from the likes of Benga. Relocating to Berlin in 2007 saw his music take on a more techno-tinged edge, earning him a residency at legendary nightclub Berghain. In addition to his studio work, he has released mix compilations for DJ-Kicks and Fabric; Hotflush, founded in 2003, has notched up over 250 releases. For tour dates, see po.st/ScubaGigs.



How much of that is nostalgia, and how much about quality?
Super Mario World and *Mario Kart* really do stand up in terms of playability, and just the feel of them. I always thought the first *Mario Kart* was way better than any of the subsequent ones, just in terms of how the cars handle, and how solid it feels. *Mario World* is just a perfect piece of programming. It still looks great now, it's amazing.

Have games always been a constant? For a lot of people of a certain vintage, the point at which they discover nightlife is when games take a back seat.
When I was a kid it was games and football, and when all that drugs and music thing happened, games and football just went out the window for a little bit. (laughs)

> When all that drugs and music thing happened, games just went out the window for a little bit

Once you got back into games, which kinds were you drawn to?
I played *Mega Lo Mania* loads, and *Populous*. The game I've played most in recent years is *Civilization*. To a slightly obsessive level! But the thing about being on tour is, you have tons of time on your hands, so you can do that. I don't really play games too much at home, but when I'm away? Yeah, okay, I've got seven hours now, I'm not doing anything.

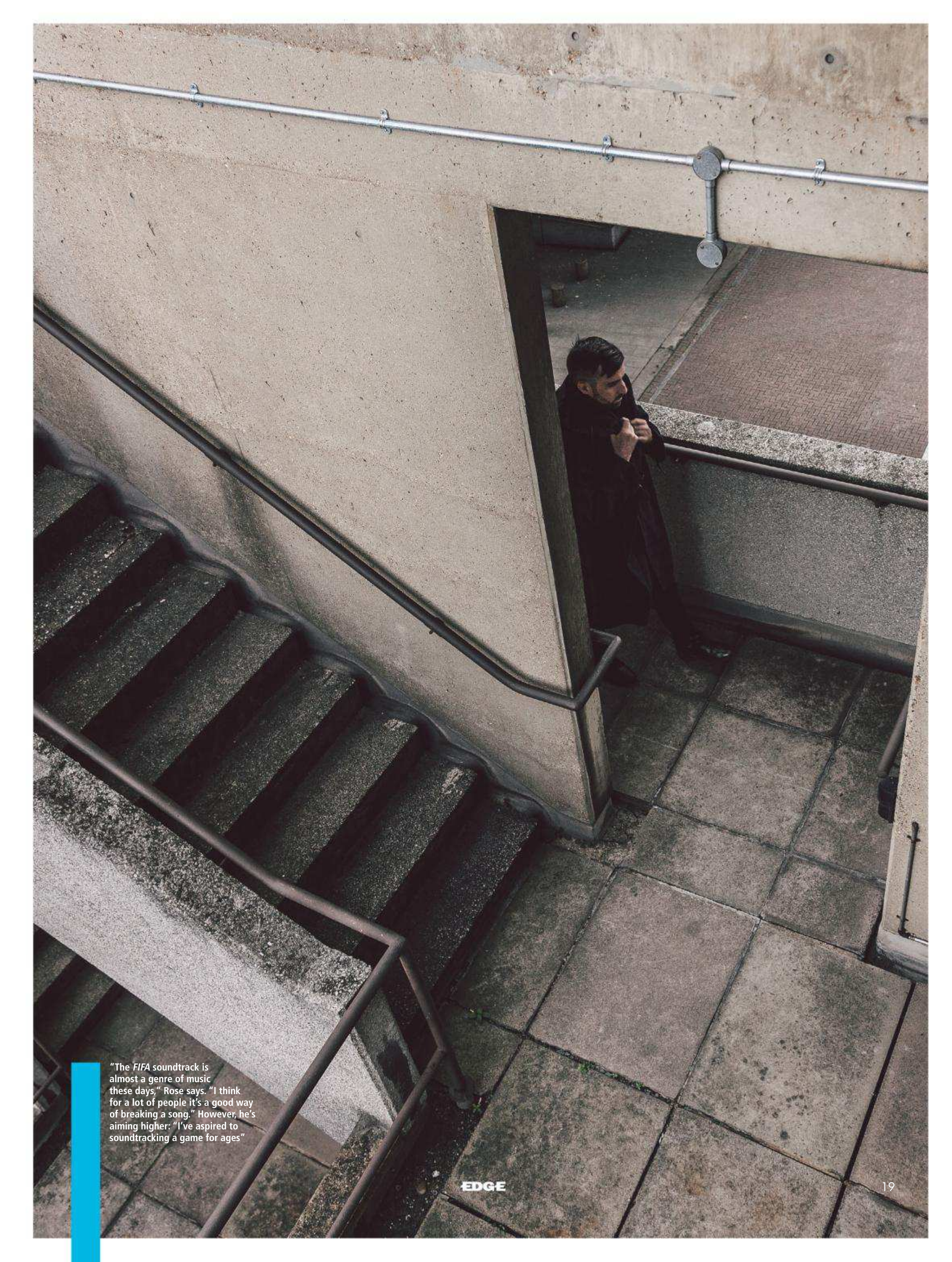
Most of the musicians we speak to are in thrall to Switch. Given your SNES past, we assume you've picked one up?
I've considered it. I was just reading about Labo, and it seems like a really interesting machine. There are the obvious ways in, with *Zelda* and *Mario* – yes, I would fucking love to play the new *Zelda* game, absolutely – but what's great about Nintendo is there's always more to it than just the immediate hooks. It's been on my list of things to buy for ages.

So what else are you playing right now?
Nothing new. As I mentioned, I've got my emulator; I've been playing a lot of *Street Fighter*.

Which one?
Street Fighter II Turbo.

Ah, a purist.
Yeah (laughs). I'm of a certain age where lots of my schoolfriends are approaching a sort of mid-life crisis, so there's lots of nostalgia going on. Extended *Street Fighter* sessions are a big part of that. I'm also trying to improve my time-trial times on *Mario Circuit 1*. I was totally obsessed with that when I was 14. I can't do it as quickly as I used to.

So: what's your all-time favourite?
It's probably *Super Mario Kart*. I think it's much better in how it feels than any of the subsequent ones – there are too many peripheral things going on, too many items and weapons. It's the game I've got the most enjoyment out of, so I guess it has to be that. ■



"The *FIFA* soundtrack is almost a genre of music these days," Rose says. "I think for a lot of people it's a good way of breaking a song." However, he's aiming higher: "I've aspired to soundtracking a game for ages"

MOD
Neon Advance
bit.ly/neonadvance

On a fragility scale from 'solid as a rock' to 'the US president's ego when confronted about his tiny hands', the DS Lite clamshell hinge rates pretty highly. Fortunately, the self-styled Joe Bleeps is on hand to turn broken handhelds into beautiful custom collectibles. Using the standard firmware, Bleeps programs the settings to directly boot up Game Boy Advance carts to the lower screen; a speaker fits neatly into the cavity where the DS Lite stylus would typically sit inside. Each Neon Advance mod takes about five hours from start to finish, and the full package comes complete with display stand, protective pouch and USB charger. Neon Advance is currently a one-man art project rather than a product for regular sale – although we rather hope Bleeps changes his mind.





VIDEO
Street Fighter 30th Anniversary Documentary
bit.ly/SFis30

Capcom has split this promo push for its retro *Street Fighter* compendium into multiple parts, and we suggest heading straight for the second one – the first is a potted history that whitewashes Capcom's missteps out of existence. The Community episode, though, is a triumph, shining a light on a grassroots movement that was an esport before the term had even been coined. There's world-beating access to some of the scene's biggest players; Ryan 'Filipino Champ' Ramirez's story of working through the pain of training for 16 hours a day is the highlight. Essential.

WEB GAME
Roulette Knight
bit.ly/rouletteknight

Roulette Knight is an RPG built around Russian roulette. Starting with just a single bullet in the chamber at a time, you're aiming to go several trigger-pulls in a row without blowing your chivalric brains out (this thick-skulled champ takes two shots, at least at first). The longer your combo, the more money and XP you accumulate. Cash helps you snap up useful trinkets – a bauble that returns health for every safe shot, a charm that shows you if the next bullet will be fatal – while XP lets you level up and move across the map. Being forced to march onward into more dangerous territory feels unfair if the shop hasn't been kind: nevertheless, FourQuarters' kooky creation juxtaposes tactical play with the pure risk of beating the odds to tantalising effect. Just one more round couldn't hurt, surely.



THIS MONTH ON EDGE

When we weren't doing everything else, we were thinking about stuff like this

HMD
Royole Moon
bit.ly/royolemoon

If the gold finish doesn't give this product's luxe aspirations away, its pricetag certainly will. The £850 Moon promises an immersive, big-screen experience on the move; maker Royole suggests it's like looking at an 800-inch curved screen from a distance of 20 metres, which is an oddly specific way of trying to make something sound very big, and then quite small, in the same breath. The action feels a little too far away from you when playing games, especially if you're used to VR. It's certainly portable – the headset folds up on itself neatly, while the processor box is the size of a smartphone – and built-in noise-cancelling headphones pack a punch. Adjustable corrective lenses avoid the need to squish spectacles into the headset. But it's uncomfortable for prolonged gaming use, without enough redeeming features to justify it. We'll stick to the living-room TV, if that's okay.



continue

Play it safe
Tighter E3 security may be inconvenient, but it beats getting shot

High roller
Fortnite's new shopping trolley vehicle is wheely fun. (We'll fire ourselves.)

Vertical market
Ikaruga on Switch is just a revelation. More Dreamcast ports, please

Stick and poké
A Pokéball-shaped controller? Now to see *Dark Souls* beaten

quit

Monsoon season
The customary deluge of pre-E3 leaks seems torrential this year

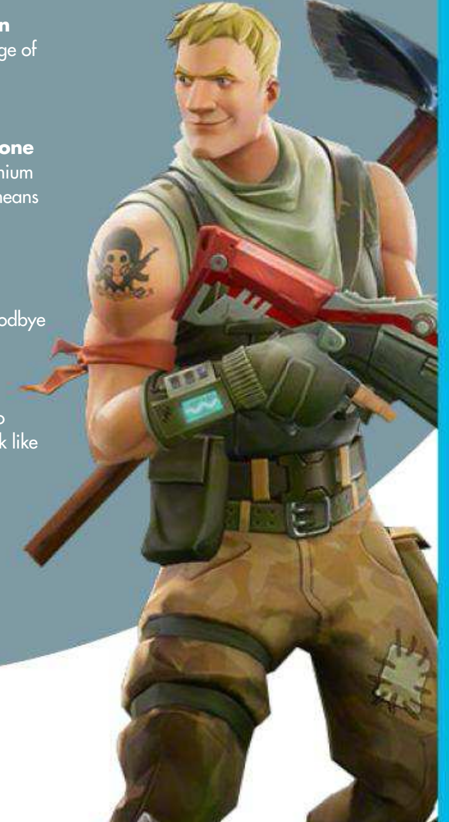
Going, going, gone
An aversion to premium pricing on mobile means *Go* games are over

Forbidden fruit
OpenGL is being deprecated; kiss goodbye to games on Mac

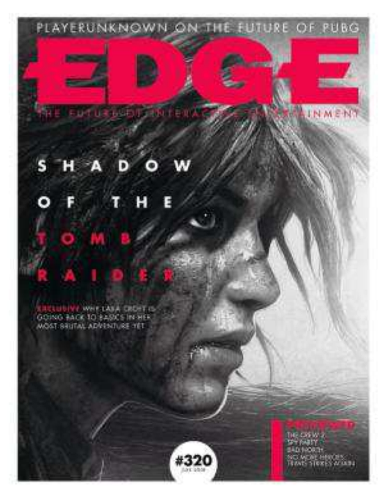
Poor taste
PRs, we beg you: no more cakes that look like butchered women



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DISPATCHES
AUGUST



Issue 320

Dialogue

Send your views, using 'Dialogue' as the subject line, to edge@futurenet.com. Our letter of the month wins a year's subscription to PlayStation Plus, courtesy of Sony Interactive Entertainment



PlayStation.Plus

Growing pains

Simon Brindle's experience with *Firewatch* (Dispatches, **E**320) reminded me of a similar incident I had in the late 1980s, with a 4X MSDOS game called *Reach For The Stars*. The game was entirely text-based although they had cleverly remapped some character graphics to planets so they could draw a map. I'd bought this game and played it obsessively with three friends, taking dozens of turns that could last up to half an hour each.

Eventually, we hit a bug, when someone formed an armada of more than 32,767 ships (any software engineers reading this will recognise that magic number). Bad things happened and the game was ruined. I returned it (no small feat since I had to take a train into Manchester and argue with the shop owner to manage it). But now I wish I hadn't.

Since then, I've trained as a software engineer and I've found that writing software, and testing software, is really hard. It would probably take all the people on the planet more than the expected lifetime of the universe to test every possible *Firewatch* save game on every conceivable configuration of all the hardware that it is available for. And it may not be a *Firewatch* bug at all. The issue might be to do with the PlayStation's operating system, or might even be a hardware problem on Simon's machine.

The bottom line is, if we hit developers in the bottom line for every bug, then we won't get better games. We will get no games. *Firewatch* is a great game, and when we buy games I now think we have to shoulder a little bit of risk.

Tony Park

"If we hit devs in the bottom line for every bug, we won't get better games. We'll get no games"

Reach For The Stars indeed. We'd rather developers stretched themselves and got it wrong than didn't even try for fear of being stung by platform-holder refund systems. To expect perfection is understandable to an extent – Early Access has changed the way we think about finished, full-price software – but a little understanding goes a long way.

Happy days

I recently realised not only that *Deus Ex* is nearly old enough to drink, but that the series has spanned four generations. And that made me think that it probably serves as a pretty good guide to the various gaming tropes over the years. Obviously I'll have to replay everything back to back to find out, but here are some predictions based on some hazy memories.

DX1 came out in 2000, in the heyday of the immersive sim, so I expect big levels and freedom of choice, understated storytelling and random highbrow philosophy (wait, you mean you *don't* debate Montesquieu when you go to a bar?!). Also a wonky combat system, wonkier animations and uninspired texturing. And probably being captured by the bad guys at some point.

I recall that, back in 2003, *Invisible War* was one of the first games to cause controversy about 'dumbing down' for the console audience. So there should be small levels, item-selection wheels, shorter dialogue and lots of signposting, right? And the protagonist from *DX1* is probably a god or something.

Human Revolution was published by Square Enix in 2011, so I expect some unnecessary melodrama and very serious voice acting (yes, everyone remembers that you didn't ask for it, Adam), quicktime events, a cover system, and zombies.

Mankind Divided was also published by Square Enix, but in 2016, so here is to a *Human Revolution* remake with HDR, bloom and all the other fancy graphics, obsessive FPS counting, even more melodrama, microtransactions and countless DLC. But



it's also after the rise of Bioware and *Witcher* 3, so there are probably some interesting choices and well-rounded characters too.

Okay, now to find out...

Leo Tarasov

We like this a lot – if anyone else fancies writing a retrospective of a beloved series based on fuzzy memory alone, go ahead. We might give it a go too, if only to get Time Extend done a little quicker every month.

A different world

The year is 1996. A certain archaeologist is somersaulting into the videogame scene, boasting on the front cover of her debut title a revolutionary tagline: "featuring Lara Croft". Still in 1996, the novel Idoru is published. William Gibson takes us out of the sprawl to find a love story between guitar god Rez and Rei Toei, a digital simulacrum. Later, in faraway Hollywood, there are plans for a film in which flesh-and-bone actors will become indistinguishable from their polygonal counterparts. The synthespians of Project 880 – which later became Avatar – are a dream director James Cameron has kept locked in his mind closet since – you guessed it – 1996.

By the tail end of the last century, the invasion of the synthespians is set to burst out of its interface of choice. Take Sharon Apple from Macross Plus or Reiko Nagase of Ridge Racer fame, to name a few. Alas, it's all fun and games until someone loses a lot of money. Enter Aki Ross, first – and last – lady of Polywood. Deemed too American for the Japanese – or was it too Japanese for the Americans? – *Final Fantasy: The Spirits Within* flops at the box office. Polywood's flying start comes to a crashing halt.

Still, history tends to repeat itself. Today, as a bullet point, 'photorealism' is hardly going anywhere. Tomorrow, the investments in games and other media will be such that, once created, the great-grandsons and great-grandaughters of disgraced celebrity Aki Ross should know better than to become disposable assets. Especially so if sale figures disappoint. Why then not have a character model star in a different role from one game to the next? After all, Mario is busy with every single sport discipline imaginable, we could have Gordon Freeman take up the newly vacant plumber position. Probably not something Valve had in mind when the studio was founded back in 1996, but it's not as if he'll be busy starring in *Half-Life* 3 anytime soon.

Paolo Cego

Banjo in *God Of War*? *GTAV*'s Trevor in *The Last Of Us Part II*? Tingle in *Persona 6*? Heavens above, we'd probably play them all.

Cheers

I'd like to send kudos to Santa Monica Studio for a refreshing set of trophies in the recent *God Of War*.

It's rare that my inner completer-finisher gets to tackle a trophy list in its entirety. There are nearly always a few tasks that are plainly out of reach, either due to lack of skill or the time commitment they would require. Playing through a game on its most gruelling difficulty setting, or going through the same story multiple times, just isn't going to happen. I'm not usually a trophy hunter for the reason that I find it difficult to commit to a list of tasks that I know I have no prospect of completing. So I end up getting through the main quest of a game (if I'm lucky), baulking at the trophies that are out of reach, and moving on to the next box in my pile of shame.

God Of War has a complete set of trophies that are achievable on every difficulty setting, and in a single run through of the game. This has (somewhat counterintuitively) kept me playing it far longer than I otherwise would, as I know that upon getting to the end of the story, a marginal extra time commitment sees the platinum trophy within my grasp.

The list is not perfect, admittedly. I defy anyone to have the dedication to find and snipe all 51 of Odin's ravens without resorting to Google, but I feel that the list serves as a good exemplar of how to use trophies to motivate players of all abilities, and not just those with superhuman skills or dedication.

Matt Lucas

Turns out it's wasn't just *God Of War*'s camera that was designed with a single shot in mind, eh? A canny bunch, that lot.

Family ties

I read a lot in **Edge**'s Dispatches pages about kids. I'm several levels higher than most of you, having gained the 'third child hits 10' achievement almost a year ago. We're PC gamers in our house, and with the level of demand, invested in a second gaming PC.

With two gaming PCs instead of one between four of us, you'd have thought we would have had half the arguments. But no. Steam is arranged such that if child X wants to play *The Sims* on Child Y's account, Child Y can't play any other Steam games. Child X gets justifiably but irritatingly vocal about being kicked off *The Sims* so her sister can play *Skyrim*. The lesson: buy games DRM-free from a different store whenever possible!

Another issue is multiplayer games. Child Y really enjoyed the *Sea Of Thieves* beta, and **Edge**'s review had me at 'more DnD than *Destiny*'. Sounds like my kind of game. But for two seats we are looking at £100. That's an awful lot when I know we are only likely to get to play together once or twice a week.

So let me congratulate Klei Entertainment for including a second seat free in their (already much cheaper) multiplayer game *Don't Starve Together*. Big developers take note! We want family-pack pricing on games.

Tony Park

Are you sure the takeaway from all that isn't 'don't have kids'? Either way, with two letters printed, the PS Plus sub is yours by default. Something else for the little horrors to fight over, for which our apologies. ■



STEVEN POOLE

Trigger Happy

Shoot first, ask questions later

Back in 2009, epidemiologists Richard Wilkinson and Kate Pickett published what was to be a hugely influential book called The Spirit Level, which showed forensically how greater economic inequality in a society results in worse outcomes for nearly everybody across the board, in mortality, mental health, education, and so on. Their new book, The Inner Level, concentrates on the psychic effects of inequality on individuals.

The authors write that when people are worn down by the stress of a hierarchical society, when they feel "worthless", and "incompetent", they turn more to "addictive crutches" such as alcohol, problem gambling – and videogames. "Drugs, alcohol, immersion in the fantasy worlds of video games and TV, comfort food, retail therapy or the possibility of a big win become more alluring and draw so many of us in."

The authors admit that there is not enough comparative data available to judge whether "excessive" playing of videogames really is more prevalent in more unequal countries. (You and I know, for example, that the Scandinavians and Japanese, who enjoy the least unequal societies in the world, play – and produce – a lot of games.) But they obviously think it's probably true, because it fits all their other data. Of course what's really dismaying here is the lumping of videogames in with severe social problems, all under the umbrella of things people do when they can't face the real world any more.

The idea that it's bad to do something which takes you away from the troubles of the world is a kind of reality puritanism. You don't like reality? Too bad: you should have to look at it squarely in the face 24/7, and if you don't you are weak. This idea is already present, of course, in the very notion of any kind of entertainment as 'escapism'. To escape from a prison is to refuse to serve your debt to society; so, too, to escape from reality by playing, say, *God Of War*, is to run away from quotidian worry and responsibility.



Illustration kaeru.com.ar

The idea that it's bad to do something which takes you away from the world's troubles is a kind of reality puritanism

But it's notable how such critiques just assume that videogames, along with those other bad things, can have nothing inherently worthwhile about them. They are here framed as an activity that is at best empty, at worst destructive. It's notable that we never see social scientists wringing their hands about a refusal to face up to reality resulting in an epidemic of reading books. We don't worry whether people are reading too much. As TS Eliot wrote, "Human kind cannot bear very much reality" – and so we have art. Meanwhile, the idea that playing videogames is a reaction to feeling looked down on by others ignores the truth that videogames today can actually increase confidence and enhance a sense of community.

The really serious cultural problem with videogames right now is not that, as these authors suggest, they are all just as bad as problem gambling; it's that a subset of games really are becoming gambling machines. As I write, the UK government has just slashed the maximum allowed stake in standalone fixed-odds betting terminals in shops, but the modern videogame predicated on a super-monetisation model involving loot boxes and so on is just a fixed-odds betting machine on steroids, with prettier lights and no staff around to gently suggest you leave when you've lost your shirt.

It's clear that if "pathological" videogame addiction is already a real problem for a small minority of populations, adding to videogames the tried-and-tested dopamine-exploiting strategies of gambling is hardly going to help. And neither is denying that these games involve gambling. The Belgian government, for one, has recently announced that randomised loot boxes in *Overwatch* and other titles count as "games of chance" and so fall foul of its gaming regulations. Such videogames, they note, lure players in with an "emotional profit forecast" of goods, where players "buy an advantage with real money without knowing what benefit it would be", and the odds are never disclosed.

If such decisions become more common worldwide, then loot boxes could be, happily, regulated out of existence. But that shouldn't motivate publishers to try to find alternative casino-style strategies. As Wilkinson and Pickett's book demonstrates, the videogame industry still has a job to do in persuading wider society that using its products is not as bad as betting your life away. It's going to be a lot harder for that case to be made as long as games continue to be more and more like Trojan horses for gambling themselves.

Steven Poole's Trigger Happy 2.0 is now available from Amazon. Visit him online at www.stevenpoole.net



NATHAN BROWN

Big Picture Mode

Industry issues given the widescreen treatment

One day during the production of this issue, I briefly wondered what year it was. This is, in fairness, not an uncommon occurrence. I am, after all, knocking on a bit, and am also pretty sleep-deprived following the arrival of Child II: The Childening. But one day, as I wandered back into the office after a smoke break, I was asked if I knew anything about a cake. I did not. I soon would. And almost immediately afterwards, I would wish that I did not.

I'd seen it being delivered. On my way out of the building an entirely normal-looking young woman was asking the chap on the front desk to call up to a couple of the editors of Future's other game mags. She'd parked outside in the loading bay and her boot was open, a child in a booster seat just about visible in the back. A perfectly normal person, with a perfectly normal job, making cakes to order. A golf-ball cake for a 50th birthday; a Peppa Pig for a spoilt toddler; maybe the odd wang-shaped effort for a wacky hen do, but nothing racier than that. I can only imagine her reaction, this poor woman, when the order came through for this cake. A client had ordered a bare-breasted, blood-spattered bust of a demon, with a head like a vagina with teeth made out of knives. During half term, no less. What are you making today, Mummy? Well, dear. *Well*.

Once I saw it I tried to remove myself from the situation as quickly as possible, saddling the editor of GamesMaster with this most awkward of jobs: somehow disposing of, or at least moving because you couldn't have it sitting around at reception, the demon booby cake. It is, I think, testament to my unfailing Britishness that within 20 seconds of saying "See ya!" and bolting for the door, I was offering to use my famously superb muscles to carry it upstairs.

I will never forget that stupid fucking awful bloody cake. It was meant, of course, to promote the release of a game – one I will not name because, as one of my fellow editors put it once the cake had been safely ditched in the kitchen, "If you tweet about it, they win". Yet it did not quite have the desired effect. The review disc that came with it went straight in the bin. The smug email that came later on ("You're welcome to tweet pictures! From above the bust, to keep it SFW" – mate, you sent that thing *to our actual place of work*) went unanswered. The game was never really on my radar. Now it is, because I hate it with all my heart and biceps.



Illustration **kaeru.com.ar**

> The game was never really on my radar. Now it is, because I hate it, with all my heart and biceps

Hence my wondering what year it was. This was a PR tactic straight out of the 1990s, and most of those got chucked in the bin when everyone cottoned on to the fact that all you needed to get your game out there was a 30-second teaser trailer and a couple of reasonably cryptic tweets. Hell, on the same day this cake showed up, Bethesda was dominating the news cycle with a Twitch stream of literally nothing. The videogame marketing landscape has changed tremendously over the years, and it often takes this kind of jolt from the dark ages to remind you just how much.

These things happen every so often, when the struggle to rise above the noise and capture the press' attention turns to desperation. I remember work stopping briefly early in my career when a couple of mags were sent full-size replica dildo baseball bats promoting *Saints Row: The Third*. Occasionally, we'll be invited to spend a day flinging a supercar around a racetrack to promote a racing game, or to visit some Gothic castle to play a new medieval RPG. But the days of chauffeur-driven limousines with ounces of weed on the back seat are, for better or worse (cough), a thing of the past.

This is not, I don't believe, a matter of pure ethics. It's that, firstly, marketing departments and PR agencies have many more options available to them these days when it comes to getting the word out, and most of those are both cheaper and less likely to go wrongly viral than, say, a release party at a strip club, or a cake with tits. Secondly, the press just can't be arsed with it, since time is money, teams are small, and three days at some swanky event just means three days of work to do when you get back.

In **Edge**'s case specifically, we prefer to find things ourselves. We'll go to an event if it's something we really want to cover, but ultimately we decide what goes in these 132 pages every month, and we're not the kind to be persuaded by PR stunts. Especially when they're really heavy and we have to carry them up four flights of stairs. We're not getting any younger, after all.

Nathan Brown is **Edge**'s *editor. Despite all this, if anyone has a limousine-related event coming up, do get in touch*



ALEX HUTCHINSON

Hold To Reset

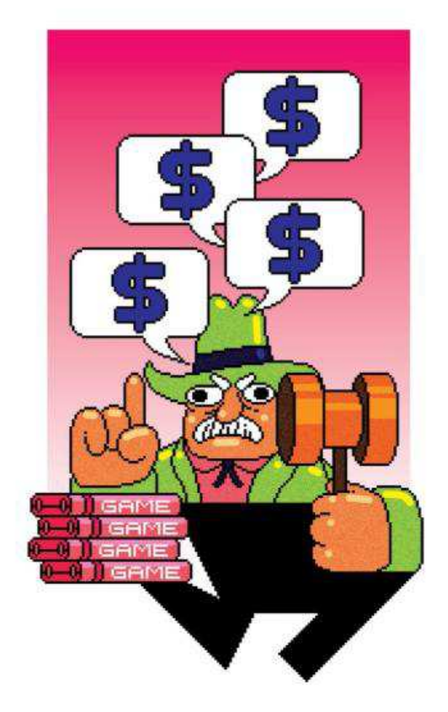
Building a new game, a new studio and a new life from the ground up

You know, I never thought that motion controls were going to take over the living room, or that 3D TVs were somehow going to become ubiquitous, or even that smartphone games would somehow destroy the desire for larger, more immersive and time-consuming titles. And sorry, I still don't believe in virtual reality, no matter how many otherwise-smart people burned their billions on it (keep an eye on AR, though). Similarly, I don't like most of the current fads on the business side of game development. Not microtransactions, nor sudden difficulty spikes paired cunningly with an offer to skip a challenge for a dollar; no loot boxes or blind card packs, and definitely not pay-to-win.

It's not that I'm unaware that these strategies sometimes make lots of money. It's that I think that they are borderline illegal in some instances, immoral in most others, and worst of all, that they inherently and directly impact the design of the game you're making. If you're not charging for your game up front, then you need to make it almost impossible to avoid paying in some other way. Which means that if you are going to sell gear via loot boxes, then you're essentially forced to tune it so that players really need that gear to progress, and then you probably need to make certain they have a low probability of getting that loot in any given box so that you can guarantee most people will spend enough money to cover your loss after giving the base game away.

So if Typhoon's goal is to keep the business model clean and fair, but still to make enough money to recoup any external investment and hopefully make enough money above that to stay in business, feed our kids, and make another game, then what do we do? To me it boils down to a very basic question about how you structure your content, and then how much you charge for it.

It would be lovely to think that these decisions can be made in a vacuum, but the type of game and even the type of industry we inhabit have a huge impact. We work in the only form of entertainment that regularly talks about the cost and length of a game alongside discussions of its quality. Book reviews do not allow the cost of the book to affect perceptions of its quality, and it would be ridiculous for a movie review to complain about the length of the movie itself for any reason other than its impact on quality – certainly not any perception of the 'value' of the ticket. On the other hand, game reviews regularly include discussions of price, length and 'replayability', despite decades of statistics showing that less than half your audience ever finishes the average game.



A great, ten-hour experience at $20 will probably get our average review score nudged up

Which means that if we think the best solution for the longevity of Typhoon is a good review on our first game, then we should price it down: a great, ten-hour experience at $20 will be considered great value and probably get our average review score nudged up a few points. It would also hopefully move us away from direct comparisons with the heavy hitters in any genre, as we would not be setting expectations at the same level. But $20 is low for the amount of time and money we're investing in the game – as I've mentioned before, we think there's an open window for a focused, high-quality game between the current scale of an average indie game and the massive scope of the triple-A market – so our current best guess is closer to $40, which is enough to justify the expense, but low enough to avoid a direct 1:1 comparison with our $60 brethren.

That price point seems valid on a digital store, where prices are varied and product specific, but it gets harder with a physical release. Clearly you cannot charge a much higher rate for an identical copy of the game in a box, but retailers and many players will immediately discount a $40 boxed game as a 'budget' title, which affects everything from store placement to how many copies they'll put on a shelf. At that point we could perhaps ship a 'complete' edition for retail, at a higher price, which includes all future content and add-ons, but it signs us up for long-term support – which we would love to provide, but which will be predicated on the base game selling well enough for us to afford it.

All of which comes to a head for us in these next two weeks where we need to make sure our publisher agrees in principle with that vision, so we can close the final plan for funding the full production, commit to a set number of platforms and territories, and then, finally, I'll be able to dive deeper into the specifics of the game here. I know I keep saying that but, honestly, we're getting there.

Alex Hutchinson is co-founder of Montreal-based Typhoon Studios. He can be found on Twitter at @BangBangClick

Illustration **kaeru.com.ar**

#321

HYPE

THE GAMES IN OUR SIGHTS THIS MONTH

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Switch

52 **World War 3**
PC



Explore the iPad edition of **Edge** for extra Hype content

Calling the shots

Remember when the big boys led the charge? It feels like forever ago now, but with *Call Of Duty 4: Modern Warfare*, Activision defined the console shooter for a generation. Innovations such as perks, levelling and customisable loadouts quickly became genre standards, and have remained so, for better or worse, to this day. Similarly, the *Battlefield* series wrote the book on large-scale multiplayer, its 64-player, PC-only warfare the envy of console players everywhere.

Things are very different now. The defining games of the past ten years have not, by and large, been made by big publishers. And so we frequently find ourselves in the uncomfortable position of watching as these former kings scrabble around under the table for scraps. Rather than introduce new ideas that others can't resist copying, they are now the magpies, pilfering shiny design trinkets from elsewhere and hoping lavish production values can obscure the joins.

Call Of Duty's been at this for a few years now, in fairness. And for *Black Ops IIII* (p36), developer Treyarch would prefer you to believe that the biggest source of inspiration is *Black Ops* itself. Yet there are whiffs of *Overwatch* here, and *Rainbow Six: Siege*, and *Destiny*. If not for the name on the box, and the enduring Zombies mode, would it still be *COD*?

Black Ops IIII will also feature a battle-royale mode, dubbed Blackout, though it's absent from our first taste of the game and as such we can't say just how brazen a borrowing of the *PUBG* template this will be. Expect, however, something akin to the new Last Man Standing mode in *Battlefield V* (p40): something that is basically, but not quite entirely, a battle royale, that has a different name and just enough twists on the formula to pass muster (and the legal team). These days, apparently, this is what counts for innovation in some of the biggest games on the planet. We hope it's just a phase.

MOST WANTED

Jurassic World Evolution
PC, PS4, Xbox One
With review code arriving a tad too close to the wire for inclusion this issue – and too close to the trip to E3 to be played before we get back – we'll have to wait a little longer before we can run the rule over Frontier's Goldblum-starring riff on *Planet Coaster*. Review next month.

Dark Souls Remastered Switch
Yes, we're back on board, as you'll hear later this issue. But as nice as it is to run through Hidetaka Miyazaki's masterpiece all over again, it's tinged with a note of disappointment. The Switch version was going to keep us company on the long flight to Los Angeles. The wait is agony.

Yakuza 4 PS4
Sega recently announced a trio of PS4 remasters that, when completed, will mean the full *Yakuza* series is available on one console. And it's the fourth entry, with its four-protagonist set-up, to which we're most looking forward to return.



The *Metro* series has always thrived on detail, from the feel of each jury-rigged weapon to the practical matters of survival in the tunnels beneath post-nuclear Moscow. These are games that forego traditional UI elements in favour of in-game gadgets that must be checked and double checked, where your faltering breath is a sign that a vital gas mask filter has failed, or where your lenses may fog in the middle of a dangerous encounter.

Metro: Exodus continues the journey of series lead Artyom, now married and a prominent member of a ranger group known as the Spartans. Having departed the tunnels of Moscow on board a hulking freight train called the Aurora, the Spartans are on a mission to the east in search of survivors.

Key elements of *Metro*'s traditional structure remain: both *2033* and *Last Light* took the form of journeys, after all, and travel by rail has always been used to link set-piece environments in these games. What sets *Exodus* apart is the scale of these environments. In the part of the game we play, unexpected resistance sees the Aurora stranded in a vast frozen marshland dotted with areas of heavy industry on the shore of the Volga river – a map several times larger than anything encountered in previous *Metro* games, yet handcrafted with the same attention to detail.

"We wanted to do something a little bit different," says executive producer **Jon Bloch**. "The team has been down in the metro system themselves for the past decade or so – we wanted to do something different for ourselves."

To be clear: 4A is not making an open-world game. Large areas like this one will account for chunks of the campaign's running time, but you will travel from one to another through a series of linking missions that hew much more closely to the *Metro* format of old. You won't be able to return to areas that you've finished, and the intent is not for players to mine every scrap of content from every environment. The purpose of this more open approach is, instead, to give players a greater sense of freedom and to provide space for more dynamic outcomes from the game's underlying systems.

"We wanted to give the player more options, give them more of an ability to set their own pace," Bloch says. "You could go and do the mission you were just given, to further something that's obviously the main objective," he continues, "but you could also go off and do something else. We wanted to weave in other opportunities to have these micro-experiences that are classically *Metro*, but that are not necessarily on that core narrative thread."

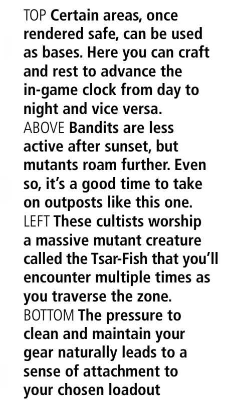
The section of the game we play sees Artyom initially directed to a distant church, with part of the journey taking place by ▶



ABOVE **A minimal UI makes it necessary to use binoculars and a physical map to locate points of interest in each new zone. When NPCs need to tell the player where to go, they'll often do it simply by pointing.**
LEFT **A smoke-and-mirrors approach is taken to your AI companions, as in other games. As you explore this train carriage, for example, your partner discovers some vital information off-screen**







TOP **Certain areas, once rendered safe, can be used as bases. Here you can craft and rest to advance the in-game clock from day to night and vice versa.** ABOVE **Bandits are less active after sunset, but mutants roam further. Even so, it's a good time to take on outposts like this one.** LEFT **These cultists worship a massive mutant creature called the Tsar-Fish that you'll encounter multiple times as you traverse the zone.** BOTTOM **The pressure to clean and maintain your gear naturally leads to a sense of attachment to your chosen loadout**



boat. Once there, we discover a congregation of technology-adverse fanatics holding a woman and her daughter hostage. Escape means a familiarly *Metro* process of stealth and combat within the confines of the church – we opt to take a quiet, non-lethal approach, snuffing out candles and throwing cans to draw our pursuers away before making a headlong dash for the exit. We could have opted for all-out combat, which would have introduced its own complications – as it happens, a friendly character back on the shoreline commends us for our restraint.

It is to *Exodus'* credit that it is capable of delivering these kinds of tightly designed encounters within the context of a far more open environment, although the transition from one mode of play to the other could be smoother. In the case of the church, the player's intended path is made clear by the abrupt arrival of impassable barriers. Later, dramatic and often striking firstperson cutscenes – Artyom being dragged from his boat by an aquatic creature, or falling through a crack in the ice – are similarly used to deposit you into the next linear challenge. The experiences that these interruptions lead to are strong – particularly an atmospheric underground sequence reminiscent of the darkest parts of the previous games – but their arrival can feel contrived, and hopefully this'll be improved between now and launch.

More open environments support deeper survival and gear management mechanics, with *Exodus* introducing a crafting system based on materials scavenged from the environment. Artyom can tinker with weapon attachments, clean and repair his gear, and create essential items such as gas-mask filters out in the wild. In safe areas, at a crafting bench, you can undertake more thorough customisation of your weapons and armour. This is an effective extrapolation of a tension that has been present throughout the *Metro* series. These games have always encouraged you to consider the cost of each bullet you fire, to seek faster and more efficient combat strategies not just for their own sake but because they leave you with more tools with which to handle the next encounter – or the next disaster. Venturing off the beaten path is rewarded with materials that might aid in the next story mission, but may also lead to complications that end up costing you more than you earn.

"One of the biggest challenges that came with doing this is that in allowing the player to have more freedom, a lot of the design philosophies had to become more dynamic," Bloch says. "Where before we might have set a certain number of resources that you can find in a level and you'd find that number every time you played, in this game it's more dynamic and it watches what the player has, what the player needs. We never want the player to have enough, and that creates that survival mentality of, 'I need to find more'."

When these systems work together they create a sense of verisimilitude that has always been a particular strength of the *Metro* series – a connection between your practical and ethical decision-making that immerses you more fully in each grim encounter. This has been further deepened in *Exodus* with more diverse AI behaviour. Open environments support creatures that hunt in groups, protect specific territories, and react to players in different ways – from prowling packs of lupine monsters to aquatic insects of the Volga.

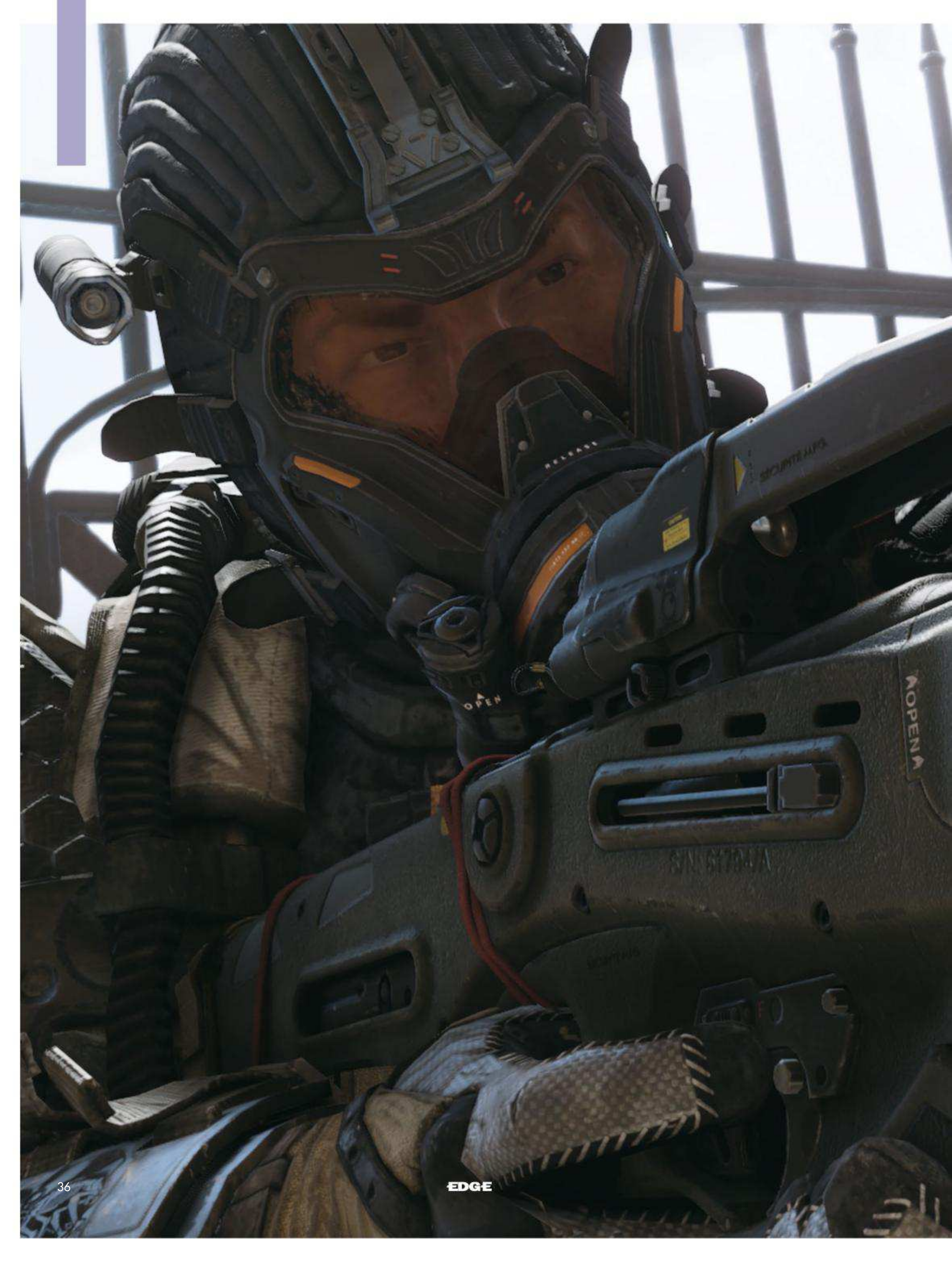
Approaching a bandit outpost in the wilderness feels a little like taking on a Far Cry outpost

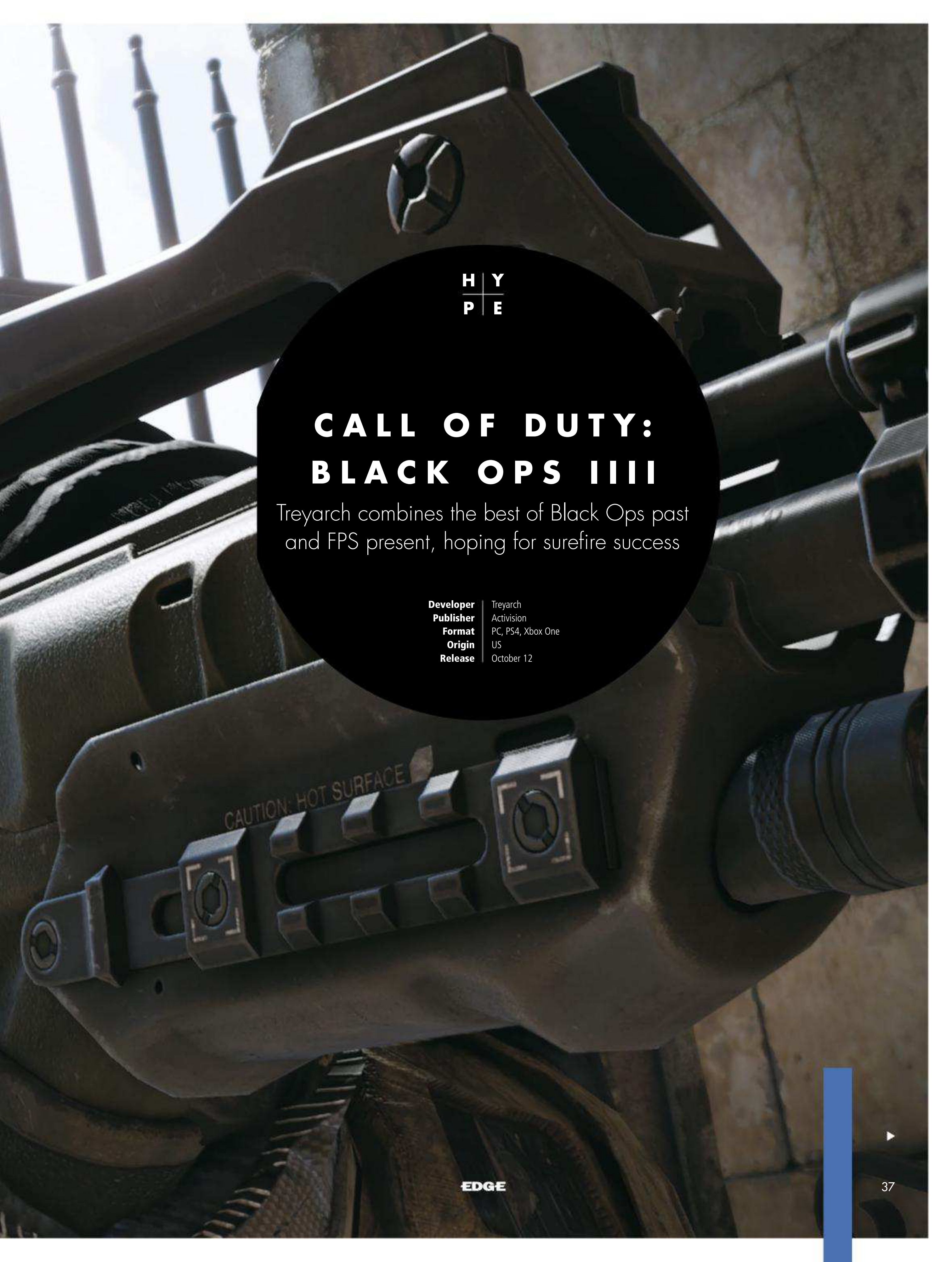
This is true of human opponents, too, who are now much more vocal and may flee or surrender when threatened. Approaching a bandit outpost in the wilderness feels a little like taking on a *Far Cry* outpost, but with the added benefit of all of *Metro*'s underlying systems and detailed presentation. Strong core gunplay is flanked by supporting mechanics – sophisticated stealth, weather and time of day systems, crafting, gear, environmental hazards and so on – that evoke dozens of interesting micro-scale decisions. While these have always been qualities of the *Metro* games, the way they now relate to broader strategic considerations – whether to engage the bandits and save the villagers, or slip past to conserve ammunition – is specific to *Exodus,* and a promising sign for the future of the series. ■



Game mechanics

The tactile 'feel' that has become a hallmark of the *Metro* series is a result of the 4A design team's roots in the practical sciences. "We have a lot of guys on our team that have those kinds of backgrounds," Bloch says. "We have mechanical engineers, rocket scientists – pretty smart people. "It's very important to make sure that everything is grounded, has a reason. We spent a lot of time and energy with things like the weapons to make sure that they are realistic. In previous games we made sure they seemed as realistic as possible, but this time around the weapon designers actually went and made sure that the weapons are mechanically sound – at least on paper."





HYPE

CALL OF DUTY: BLACK OPS IIII

Treyarch combines the best of Black Ops past and FPS present, hoping for surefire success

Developer Treyarch
Publisher Activision
Format PC, PS4, Xbox One
Origin US
Release October 12





ABOVE **Zombies mode IX whisks players off to an ancient Roman gladitorial arena. Combat appears to be mostly melee-focused, with maces and swords featuring heavily instead of guns.** TOP RIGHT ***Black Ops IIII* also includes a reimagining of fan-favourite Zombies map Mob Of The Dead. Renamed Blood Of The Dead, it sees Primis returning to Alcatraz.** MAIN **A comprehensive set of customisation tools will help keep Zombies fresh beyond launch. You'll be able to tweak things such as enemy speed, health and damage.** BELOW LEFT **Firebreak returns as an essential area denier in multiplayer. His Reactor Core equipment emits a damaging radition zone that reduces enemy health – although it can also damage him if it's charged for too long.** BELOW RIGHT **"We're in the business of doing non-traditional campaigns and storytelling," producer Miles Leslie tells us. "When we started *Black Ops IIII*, we had to one-up ourselves again." Zombies and other modes, such as solo missions based on each Specialist, will form the narrative**







CALL OF DUTY: BLACK OPS IIII

Treyarch chairman **Mark Lamia** proudly announces that "this isn't business as usual," and he's correct: *Call Of Duty: Black Ops IIII* is a very different approach for the one-time king of online shooters. The studio has adjusted the format to better suit the current industry climate, in which updates keep games constantly relevant, and one-and-done campaigns are put aside in favour of endless multiplayer sandboxes. It's an understandable, somewhat expected, shift – and an enjoyable one. Whether it's really *Call Of Duty* any more is another matter, but in a way that's precisely the point.

Black Ops IIII has magpied the shiniest and most successful parts of other shooters and built them into a contemporary package. Multiplayer has been retooled: now, the emphasis is on considered, tactical teamplay over flashy solo killstreaks. "The big thing for us was, outside of gunplay, what are the other ways you can be successful at playing a *Call Of Duty* game that's not just your KDR?" senior associate producer **Brittany Pirello** says. Each playable Specialist comes with a formidable set of abilities. The Recon type can shoot a dart that offers them a generous radius of X-ray vision. Crash provides teammates with assault magazines that grant point bonuses. Seraph can deploy a beacon that lets allies respawn in an opportune location: plonking one behind cover next to a control point will feel downright unfair if the other team neglects to destroy it. Kills charge your special ability (which borrows its double-bumpered activation from *Destiny*): Recon gives your entire team map-wide sights, Crash can wave a kind of Handycam over teammates to heal them, and Seraph gets, well, a big pistol.



Minus the more considered kit synergy, then, it's all very *Overwatch*. And there's more déjà vu to come, this time *Rainbow Six: Siege*-style, when we encounter a Torque player's razor wire, and come up against an Ajax's riot shield. Specialists first appeared in *Black Ops III*, but the enforcement of strict, team-focused individual roles is new. Pre-match discussions with teammates revolve around the best team composition, and offensive pushes or defensive manoeuvres require more coordination and planning than before.

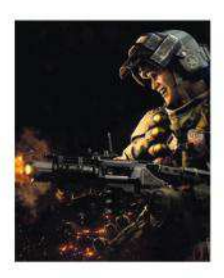
Elsewhere, the returning Zombies mode casts you and three friends as a group of time-travelling horde slayers. In these modes, you'll find pieces of *Black Ops IIII*'s story: the series' traditional offering of a wonderfully bizarre blockbuster campaign is nowhere to be found. Instead, *Black Ops IIII* introduces Treyarch's own spin on the battle royale, dubbed Blackout. It has the potential to be the most refined BR mode out there, and a celebration of all things *Black Ops*. "We're pulling from our own history of the mechanics, characters and vehicles, and weapons, abilities and maps," producer **Miles Leslie** says.

Black Ops IIII is not just a shrewd curation of the last few years' best team shooters, but also a kind of 'greatest hits' package of Treyarch's work on the *COD* series, leaving us wondering where its identity – and legacy – lies. Lamia's statement is more illuminating than it initially appears: *Black Ops IIII* is not

> ***"The legacy we want is that you cannot get this experience anywhere else"***

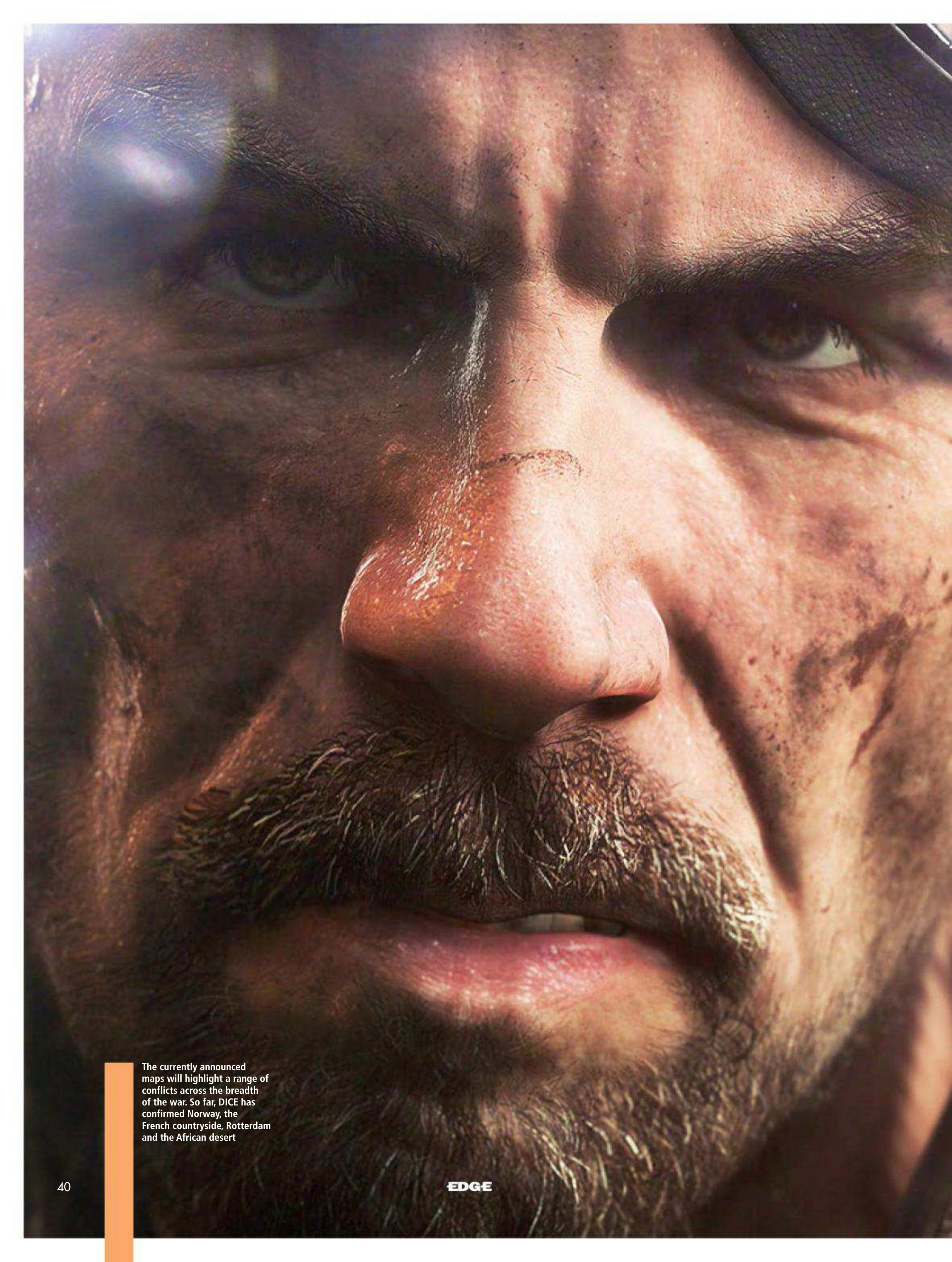
business as usual, but it's absolutely business nonetheless. It's a risk to take this series in a new direction, but it's such a product of its time that it feels more transparently than ever like a business venture instead of a videogame. Treyarch's devs sell *Black Ops IIII* onstage by invoking memories of *Black Ops* moments past, which brings the present into sharp relief: in ten years, when the battle-royale phenomenon has presumably faded and the servers are switched off, we're struggling to see what we'll remember *Black Ops IIII* for.

"The legacy we want is that you cannot get this experience anywhere else," Leslie says. "Changing the health model, going back on some of the movement stuff [from *Black Ops III*], and incorporating the best parts from the previous three games – that's its own legacy. [And] we're introducing new things on top to enhance it." Expert game designer **Tony Flame** agrees: "The way that you play feels different, and it's that experience that players who are going to be coming back for hundreds of hours will remember." ■



Darkness zone

The component ideas of *Black Ops IIII*'s battle royale mode, Blackout, had been floating around the studio throughout 2017, before Treyarch decided to go ahead and fully develop the concept at the beginning of this year. Like *Fortnite* and *PUBG*, it will be playable either solo or in squads. The map will feature elements from Black Ops series history (you'll play amongst parts of Nuketown, Raid and even old Zombies maps) and will be "1,500 times bigger than Nuketown" – a marketing line that elicited chuckles from a roomful of *COD* fans with an intimate knowledge of the iconic, detestably frantic *Black Ops* map. The area will be significantly smaller than Blackout's competitors, then, although it may make for tighter skirmishes and a lot less running. Whether we'll see a shrinking circle or something else, or predetermined loadouts over random loot, remains unknown, at least until the marketing juggernaut kicks into higher gear.



The currently announced maps will highlight a range of conflicts across the breadth of the war. So far, DICE has confirmed Norway, the French countryside, Rotterdam and the African desert



H Y P E

BATTLEFIELD V

Will a return to World War II mean victory for V?

Developer	DICE
Publisher	EA
Format	PC, PS4, Xbox One
Origin	Sweden
Release	October 19









TOP **Squads are being given more prominence thanks to a series of systems designed to keep players together. Follow enough squad orders and eventually your leader can call in vehicles and air strikes.**
ABOVE **Combined Arms is *Battlefield V*'s take on a fourplayer co-op mode. Few details have been announced so far, but expect to be working as a crack squad operating deep behind enemy lines**



TOP **The ability to customise your soldiers raises obvious questions over just how outlandish cosmetic items could become. So far, at least, everything DICE has shown suggests tastefully restrained, muted colours.**
ABOVE ***Battlefield 1*'s World War I setting meant a greater focus on infantry warfare. Expect the jump to WWII to be most keenly felt with the increased prominence of tanks and planes.**
LEFT **While DICE seems keen to offer up lesser-known stories from the war, its first online Chapter will focus on the Western front. In some modes, you'll parachute in to the front lines**



BATTLEFIELD V

War may be hell, but DICE is excited to return to the frontlines of WWII. "We're going back to our roots," **Andreas Morrell**, senior producer for *Battlefield V*, tells us. "It's so special for everyone at DICE to be able to return to where everything started." 2002's *Battlefield 1942* sold itself on its then-unrivalled scale, pitting teams of 32 players against each other in a battle that raged across land, sea and air. Sixteen years later, *Battlefield V*'s core appeal remains unchanged, but the context is much different. Now, *Battlefield* is one of the biggest games of EA's release calendar, and boasts a marketing budget to match.

Perhaps that's why *Battlefield V*'s reveal event feels so tonally incongruous, lurching from respectful reverence for a black spot in world history to bombastic enthusiasm for how fun that war will feel in players' hands. The reveal trailer is more Inglourious Basterds than Band Of Brothers, albeit with the more subversive edges sanded off. It's followed by a sombre teaser for War Stories – an anthology of missions similar to *Battlefield 1*'s singleplayer campaign – which features a Norwegian resistance fighter who, according to creative director **Lars Gustavsson**, is "about to pay the unthinkable price".



It's laudable that DICE is trying to spotlight lesser-known stories from this period of history, but by the fifth time Morrell repeats the line, "World War II like you've never seen it before", it's impossible to detect any emotion behind the tagline. If there's a reason to be hopeful, it's not here, but in DICE's body of work. *Battlefield 1* walked a fine line – silly in places, but with a deftness for conveying experiences through systems.

In *Battlefield V*, DICE wants to tell stories that span multiple 'days' as part of the new Grand Operations mode. A progression of *Battlefield 1*'s Operations, these events will link different maps and modes into a single multiplayer story, with each match depicting a new day. The example DICE gives starts with a team of players parachuting onto the map, tasked with destroying anti-air guns. How many they clear will affect the number of respawns they have during the next battle. If the attackers can push through to day four, they'll enter Final Stand – a straight fight to the death between teams with limited ammo and no respawning.

"You've been battling for two or three days," says Morrell, "you're starting to get low on ammunition, you're tired, and eventually you get close enough to get to your final objective, and that's where we get into Final Stand." While the concept of a last-man-standing battle is popular in multiplayer shooters right now, Morrell points to multiple instances of such attritional battles throughout the war. "We really felt we wanted to capture the essence of that," he says. "It fits into the overall experience that we want to tell about World War II like you've never seen it before." There's that phrase again.

Grand Operations will be the culmination of each Chapter of *Battlefield V*'s Tides of War, a new seasonal event system. Instead of paid-for expansions, DICE will release free time-limited Chapters, each containing new maps, modes and special modifiers. Ongoing monetisation will instead be tied to cosmetic items, and EA has confirmed that these will be through direct purchases, not loot boxes.

> ***"We wanted to capture the essence of attritional battles throughout the war"***

On the moment-to-moment scale, *Battlefield V* is once again putting squad play at the forefront. A new deploy menu will make it easier to respawn on a squadmate, but, more crucially, all members will be able to revive each other. Squads are further incentivised by squad reinforcements, letting the leader call in vehicles, supply drops and even a V1 rocket.

DICE also brings news of a plethora of new systems and enhancements, from more realistic destruction and more predictable bullet spread, to building fortifications and the ability to tow stationary weapons by hitching them to a vehicle. This latter option feels tailor-made to make the most of the absurd *Battlefield* multiplayer sandbox. This is, after all, a series where the chaos and confusion of war meets YouTube stunt montages and gifs of a squad piggybacking on a horse, shooting flamethrowers in all directions. Is it any wonder the marketing can't quite keep up? ■



V's a crowd

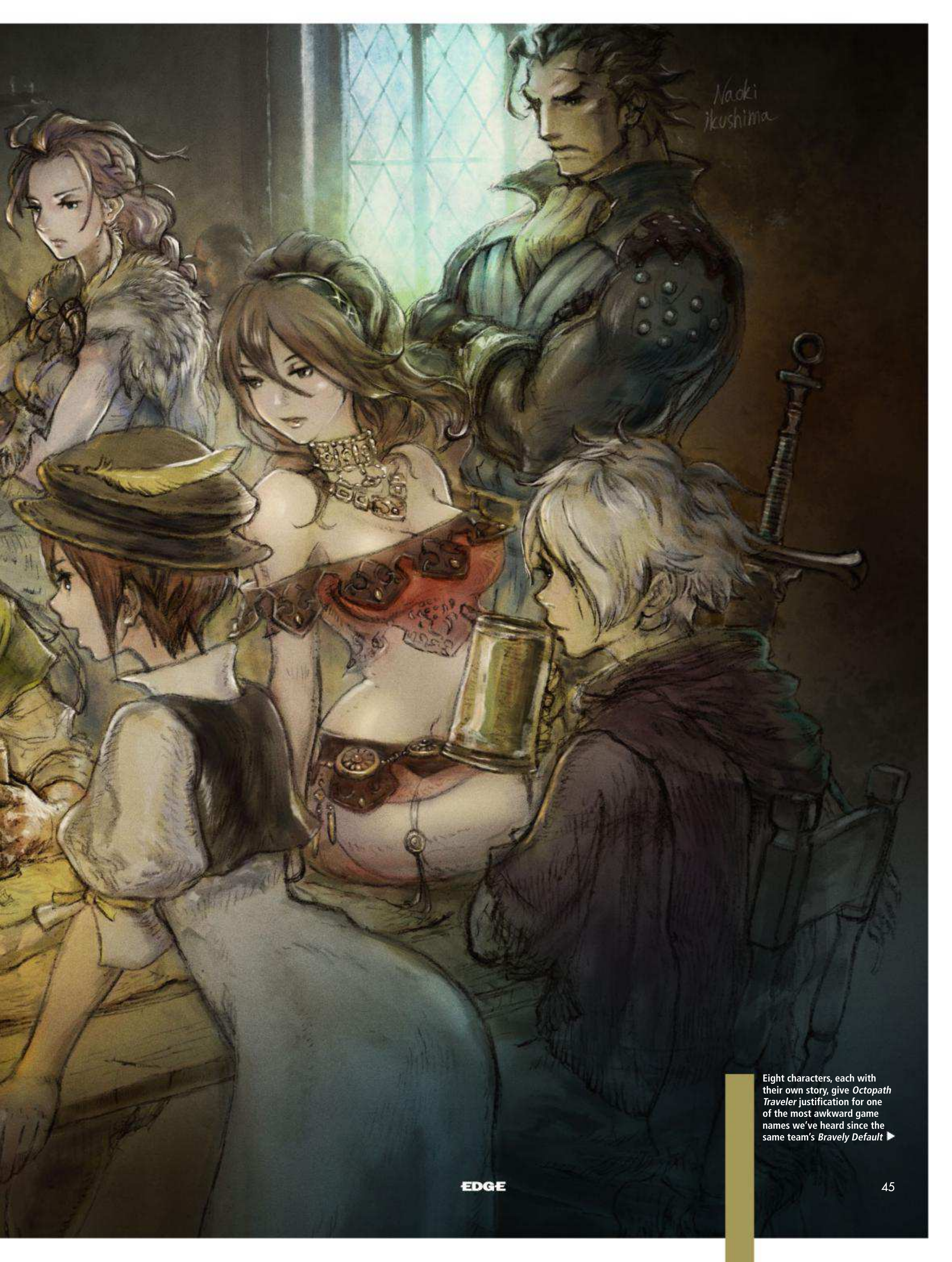
If you're surprised that EA's letting its biggest shooter of the year give new maps away for free, it's because *Battlefield V* will supplement its price of admission with cosmetic microtransactions. This is tied to a new system: The Company. Here you'll be able to customise the look and loadout of soldiers, guns and vehicles, personalising them so they stand out on the battlefield. You'll be able to create multiple soldiers of each class and army, both male and female, and tailor their loadout based on the guns and skills you unlock through progression in play, and the clothes you earn through either in-game currency or real money. Guns and vehicles, too, can be tweaked with new decals and effects, including the timeless classic: covering your sniper rifle with leaves.



OCTOPATH TRAVELER

Square Enix's brutal RPG smacks eight shades out of us

Developer Square Enix, Acquire
Publisher Nintendo
Format Switch
Origin Japan
Release 2018

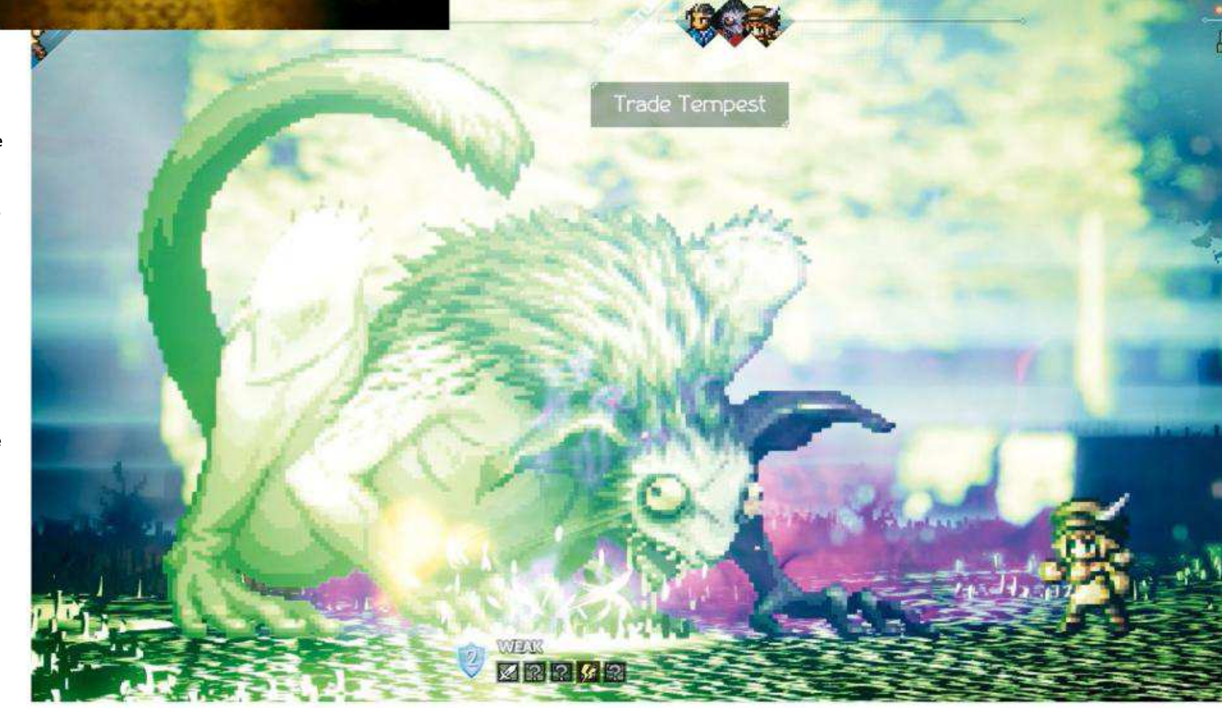


Eight characters, each with their own story, give *Octopath Traveler* justification for one of the most awkward game names we've heard since the same team's *Bravely Default* ▶





ABOVE **The heavy vignette in the screen corners is ever-present. A stylistic choice, it nonetheless has us tilting the screen in handheld mode to try and get a better view.** TOP RIGHT **Fancy stuff, yes, but you're running quite the risk burning multi-attack MP before you've ascertained an enemy's weaknesses.** MAIN **While party comp is certainly important, the fact that all the cast can play more than one role affords some welcome flexibility.** BELOW LEFT **It's certainly a handsome thing, and new techniques blend seamlessly with old-school style. Canny perspective tricks encourage thorough exploration.** BELOW RIGHT **Battles are random in the classic tradition, and our multiple treks through the sewers show that some enemy spawns are easier to deal with than others**









OCTOPATH TRAVELER

Few things demo so poorly as a JRPG. Plonk a player down at the very start of a game and they'll learn too little about what the game really is; let them loose later on, however, and you rob them of both narrative context and the necessary mechanical knowledge they'll need to get by in one of the most complex genres around. So it is with *Octopath Traveler* – and those long-standing issues are compounded further by the fact that it is as tough as nails. Yet it says much about this, the latest game from the Square Enix team behind *Bravely Default*, that despite having our backsides repeatedly handed to us, we come away intrigued.

And looking forward to a proper tutorial, admittedly. Combat is the real meat of this genre, and *Octopath Traveler*'s battle system simply sprawls – intimidatingly so, and with good reason. We are only six hours into the game, but already enemies are capable of scything off a quarter of a party member's life bar with a single attack. The counter to that lies in the Break system. Enemies are weak to certain elements or weapon types; by targeting those weaknesses you can deplete their defence stat to zero, which stuns them for a turn and gives you a precious window to either whale away on them or – more likely in our case, we must admit – to heal up.

The Break mechanic is essential, then – something made explicitly clear by the UI, which only shows enemies' defence stats and weaknesses, their remaining health only communicated by their name, its text changing to amber and then red as they draw closer to death. Encounter a new enemy type and you identify their weaknesses by experimenting; if you've met a foe before, they'll be shown from the start of the fight. Defence stats aren't particularly high – the biggest we see is four points – but since the number of attack options available to your party mean you can likely only do one or two elementally appropriate actions per turn, you'll need to boost them if you're to get that essential stun.



***Bravely Default* had** a similar system, but it was built on the concept of defending in order to boost your attack power. *Octopath Traveler*, by contrast, urges you onto the front foot. You spend Boost Points, earned at the end of each turn, on moves to increase the power of your next attack. Some will hit for multiple turns when boosted, and remove the according number of defence points from the target. Others simply do more damage, and are best saved for opponents who are already in Break state. Our demo's party is well balanced: all can deal at least decent damage, while also covering healing, tanking, buffing and status clearing. The secret weapon is H'aanit, whose movelist contains a couple of options to slow, or even stop, an enemy.

In addition to your party of four, other help can be called in. A villager recruited in a nearby hamlet can be summoned to dole out a small attack on the enemy force, before curing status effects from the team, or raising its defences. Beasts can be summoned to attack or heal. Status effects must be dealt with quickly, particularly Terror, which prevents allies from spending Boost Points.

Despite having our backsides repeatedly handed to us, we come away intrigued

Our demo has Cyrus, an able healer and mage, set as party leader, but the game has, as the name implies, eight protagonists, each with their own narrative arc. Each also brings with them a unique talent that you can use out of combat. Olberic, for instance, is the team's tank, and his Challenge ability can be employed to get, say, a person blocking a path out of the way. Primrose can Allure NPCs for summoning during battle, while Cyrus' Scrutinize is used to extract information from villagers. All prove useful during our brief sojourn to a town: Scrutinize yields a series of clues that lead us to a secret path to the sewers, while Allure recruits a new ally for summoning in a later battle.

While its striking hybrid of CG and pixel art is what grabs you first, it's the punishing, high-stakes combat that most appeals. While 2D JRPGs are still being made, most tend towards friendly accessibility; this is something else entirely – a game that seeks to dump you on your backside for eight successive playthroughs. ■



Feedback fence

Uncommonly for a game of this kind, a free demo of *Octopath Traveler* was available on the Switch eShop within months of its announcement – at the time the game was still known by its codename, *Project Octopath Traveler*. This was no mere hype-building exercise: Square Enix sought feedback on the demo, and has responded to a broad range of concerns, increasing movement speed in the field, rebalancing combat and even tweaking the UI. It's commendable stuff that has not only improved the game, but engendered plenty of goodwill in the process. Our email about US spellings in game titles, however, was regrettably overlooked.



Developer/publisher Square Enix
Format PS4, Xbox One
Origin Japan
Release 2018



KINGDOM HEARTS III

Inside Tetsuya Nomura's bonkers invasion of the Magic Kingdom

The notion of a JRPG set in the Disney universe has always been a bit mad, and boy does *Kingdom Hearts III* lean into it. We're minutes into our demo and, after whaling away on a boss' feet for a while to stun it, a button prompt appears in the bottom-left corner of the screen. Big Magic Mountain, it says, and we scan our internal Disney database, one built up over a lifetime, for a matching reference. What use could Big Thunder Mountain Railroad, a steam-train ride from Disney's Florida themepark, possibly be against a stone Titan in a level based on the Hercules film? Everything, it turns out. A neon train appears from the ether, a thirdperson action game becomes an on-rails shooter, and a Titan dies to volleys of fireworks. We haven't seen Hercules in a while, but we're pretty sure this cannon isn't canon.

These set-piece moves are dubbed, naturally enough, Attractions, and are one of *Kingdom Hearts III*'s equivalents to *Final Fantasy*'s cinematic summons. Later, we'll hop in one of the cups from Disney World's Mad Tea Party ride, and use well-timed button presses to thwack everything on screen with a swinging Pirates Of The Caribbean ship. Other characters can be summoned, too: Wreck-It Ralph can build pixellated structures to wall enemies in before smashing the whole lot to bits. Ariel dives in and out of the ground before unleashing powerful jets of water from every spot she touched. When palling around the Toy Story section with Woody and Buzz Lightyear, you can ride along on a rocket. These moves are on timers; as the bar ticks down to nothing you can perform basic attacks before tapping a button for the big finish.

> ***A lavish, loving work of fan service that embraces the absurdity of its concept***



It's one Disney set-piece after another, essentially, and it's absolute chaos. But there's spectacle in the basic combat, too. As in previous entries, protagonist Sora uses his Keyblade weapon to smack enemies around, but he can now switch between those he's collected using the D-pad. This doesn't, at first, offer the sort of flexibility you might expect it to – Sora has just one basic combo, in this demo at least. But landing successful combos powers the blade up, its form, range and damage increasing at each stage. The tiers are on timers, urging you onto the front foot to ensure your weapon doesn't revert to its base form. Power up one blade, then switch to another, and the timer pauses, letting you keep hold of your most powerful tools for when you need them most.

It's hardly *Bayonetta*, but there's more depth than you might expect, and combat plays out at such pace, and with such spectacle, that you'll be in no mood to complain. *Kingdom Hearts III* is a lavish, loving work of fan service that understands, and embraces, the absurdity of its concept, and nowhere is that made more plain than in battle.

It's bonkers off the battlefield too, naturally, if only for the sight of a manga-haired JRPG boy, flanked by Goofy and a deeply, perhaps accidentally sarcastic Donald Duck, gadding about with a revolving door of stars from one of the most enviable IP stables on the planet. Of the two sections in our demo the Toy Story one is the more expansive, and while it feels like a Disney game you're also frequently reminded that this is a Square Enix production. A toy store's shelves are decked out not only with western playthings, but kaiju toys, Japanese dolls and, cheekily, a display of *Final Fantasy* summons bearing the branding of director Tetsuya Nomura's *Dissidia* series. It lays bare the tonal disconnect at the heart of this series – something we assume is at least partly to blame for the fact that *Kingdom Hearts III* has been in development for over a decade. We didn't expect much from this, if we're honest. We come away intrigued, and hungry for more. ■

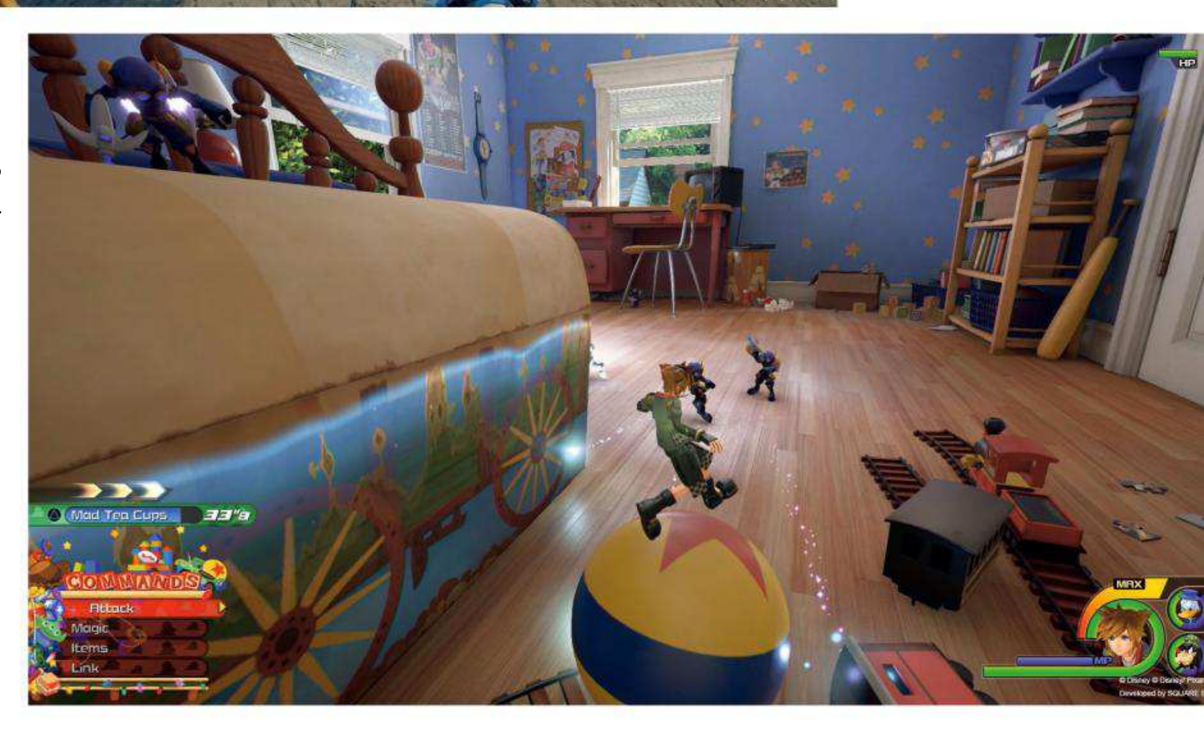


The mouse's tale

Director Tetsuya Nomura hopes *Kingdom Hearts III* will attract new players to the series – which seems a safe bet given the sumptuous visuals, and the fact that many thousands of new Disney fans have been born while he's been working on the game. Yet the game's convoluted story may prove something of a stumbling block. The title is somewhat misleading, after all: the story picks up immediately after the events of *Kingdom Hearts 3D: Dream Drop Distance*, the seventh game in a series with more spin-offs than mainline entries. Disney fan service is all well and good, but when it's diluted with talk of Master Xehanort and the seven Guardians Of Light, its impact is rather less. Luckily, you're only ever seconds away from beating up a mob of baddies with some hallowed piece of Disney folklore.

TOP **Mirage Staff is a powerful keyblade transformation that doles out magic damage over long ranges.** ABOVE **Being able to store weapon upgrades is invaluable, avoiding the disappointment of levelling one up just as you finish off an enemy wave**

TOP **We find Wreck-It Ralph's build-and-destroy Link move a little hard to perform, but mechanical complexity in these summonable set-pieces is no bad thing.** ABOVE **Enemies, in our demo at least, are polite sorts, who attack alone or in pairs. Your HP bar refills itself over time.** RIGHT **Poking around yields little rewards like this toy rideable ball, and fan-service Easter eggs are everywhere**





Developer/publisher Nyamakop
Format PC, Switch
Origin South Africa
Release 2018



SEMBLANCE

Platforming takes a literal guise in this world-bending indie

When it comes to platformers, we're used to jumping through a series of rigidly designed hoops. As we play *Semblance*, however, **Ben Myres** watches our movements with a different kind of interest. Here, platforming is taken to a literal extreme: the gelatinous blob we're controlling can bend and shape the world at will. If we need extra height to pull off a jump, we nudge the centre of a platform into a peak. A deadly laser can be neutralised by turning up the corner of a nearby surface. Myres is as curious as we are about what our next solution will be.

It's hardly surprising, then, that the South African designer prefers the title of creative director. *Semblance*'s magic mechanic appeared accidentally, the result of a glitch that caused platforms to deform when touched. "We started playing around with putting collectibles underneath them, and realised you could unveil them," Myres says. "So I said to Cukia [Kimani, technical director], 'This is the game, go make it happen.' He went off into the forest for two months – cried every day, did a few blood rituals, some dancing. And then he came back and the mechanic was working, and it just changed *everything*."

> ***"We actually worked on lowering the skill floor instead of raising the skill ceiling"***

At first, *Semblance*'s protagonist is reminiscent of Meat Boy in both appearance and aerodynamics, but it's soon clear that we shouldn't be hurtling through levels. "We actually worked on lowering the skill floor instead of raising the skill ceiling," Myres says. Indeed, gaining momentum in *Semblance* is a cerebral endeavour, as we slowly inch closer to a more lateral way of thinking. A lack of a wall jump has us squishing chunks of wall inwards with our dash to create handy ladders. A later puzzle involving a platform-hardening beam inspires a victorious laugh once we complete it. The collectible hovers high in the air: below it sits the beam on a rocky, immovable surface, too short to touch the shapeable platform above. Eventually, we crack it, prodding the platform ever downward until it finally reaches the beam – and we're flung skyward as it snaps back into place.

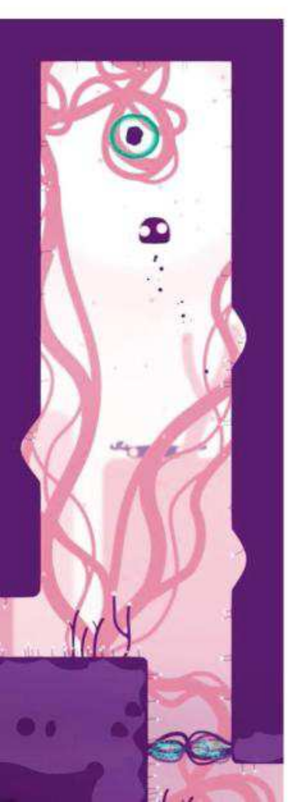
The solutions we're coming up with are – slightly embarrassingly – par for the course, the kind of answers for which Myres has specifically designed the questions. But *Semblance*'s systemic nature means that plenty of players venture outside of what Myres assumes the limits are. "You feel so stupid when you give the game to someone and they solve it in a really small way – just bump up the side and jump over the beautifully immaculate puzzle you've constructed. But then you also see them solve puzzles in these ingenious ways that's like, 'Oh my god, you understand the way this works way better than I do'."

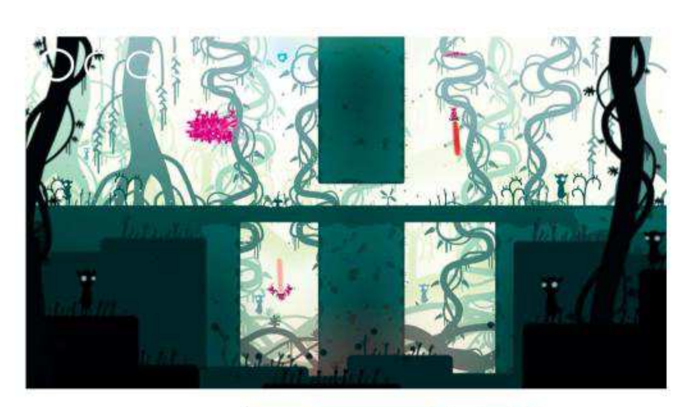
The mark of a brilliant system, Myres believes, is when the game designer can't really understand it. "It's kind of empowering, but it's also this weird thing where it feels separate to you," he says. "It's not 'I made this', it's 'I curated this space, this massive possibility space'." But there's an unmistakable identity to *Semblance* which, in its gleeful flouting of the rules, is what Myres thinks of as a postmodernist videogame about the genre of platformers themselves – and is therefore unmistakably South African. "South Africans have this very satirical mindset about the work they create," Myres says. "The South African scene is just overflowing with parody, because especially white South Africans, you're both African and European – somewhere in between. So you have those people who make games like *Broforce* and *Viscera Cleanup Detail* read as western, but they also almost wholly reject those western ideas and cultures in the games themselves." ■



Art blanche

Initially developed for Myres and Kimani's final-year university project, *Semblance* initially had players changing the character's form between three different shapes to solve puzzles. "The idea was it was set inside an abstract painting, like a Rothko or something," Myres says. "It was cool, but it was really hard to get enough gameplay out of it." Once they stumbled across the idea of deforming platforms instead, Myres began to use his love of art as a more philosophical inspiration. "I'm very into something called generative design, where programming systems generate artworks," he says. "You're designing a system to output something beautiful, but it has this singular end product. You have to think of games like that. You're just creating the boundaries, so you have to be really aware of what's happening in there."

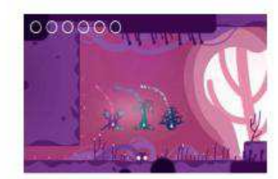




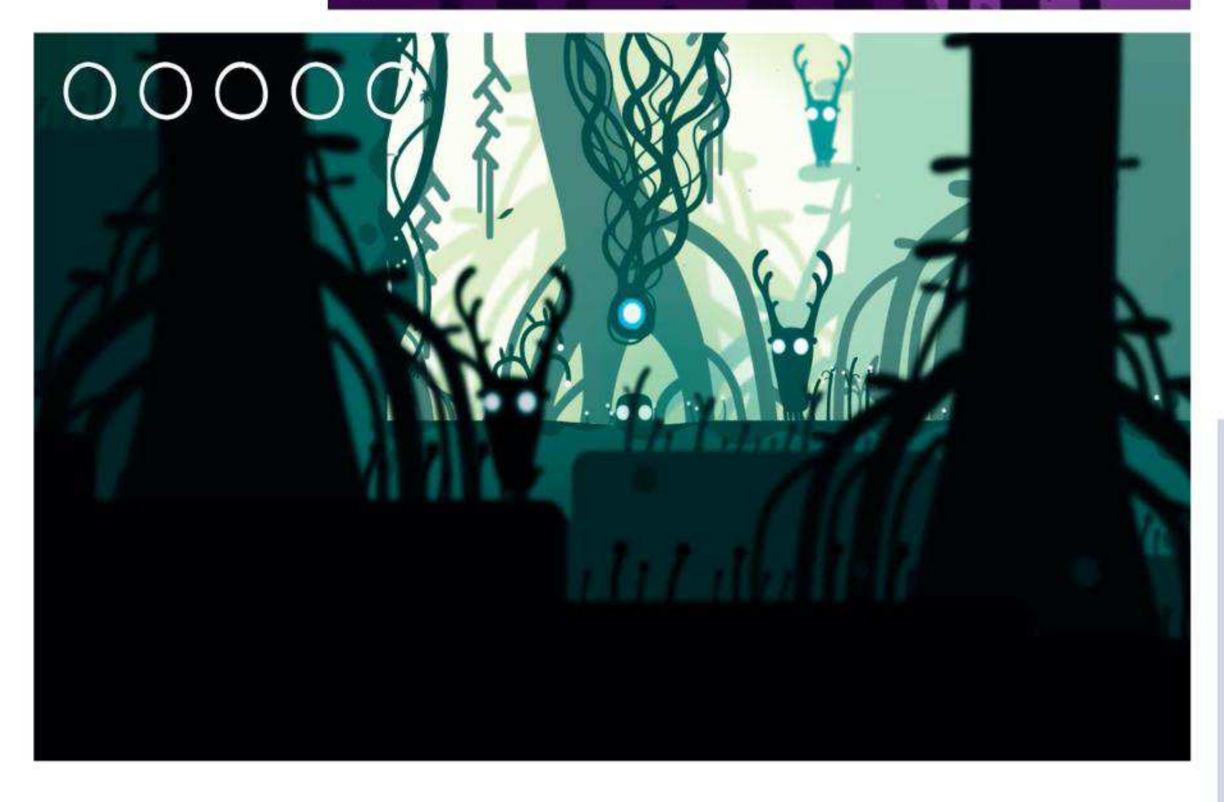


TOP **You can hold a button next to a surface to undo your deformations and try a different puzzle solution – although you have to reset the whole structure if just one bump is misplaced.** RIGHT **Myres did play with Play-Doh as a child, we're told, although he admits that "our publisher told us to stop saying Play-Doh because they don't want us to get sued. I'm supposed to say Clay-Doh now".** BELOW **The puzzles in each level (accessible via the world hub) can be solved in various orders. If you're stumped by one challenge, you're often free to move ahead and try the next**





TOP **You won't just be deforming the world. Slabs of pink crystal will flatten you into thin or wide shapes that allow you to jump higher or further, depending on how you dash into them.** ABOVE **Cave paintings on walls suggest a vague narrative unfolding between the various critters in *Semblance*'s world**





ROUND-UP

DESTINY 2: FORSAKEN

Developer Bungie **Publisher** Activision **Format** PC, PS4, Xbox One **Origin** US **Release** September 4



Bungie has been listening. (In fairness, it'd have to have been trying pretty hard not to.) *Forsaken* hopes to be to *Destiny 2* what *The Taken King* was to the first instalment. Bows will now be a regular weapon type, there'll be nine new Supers to play with, a new raid, two new enemy types, the Tangled Shore and the Dreaming City to explore, plus PvPvE mode Gambit. Best of all, random gun rolls are back, and you can choose to use the original *Destiny* weapon loadout – or even tout three shotguns. We're booking the holiday time already, though as ever with Bungie, it's what it *doesn't* tell us in advance that will make or break it.

HITMAN 2

Developer IO Interactive **Publisher** Warner Bros **Format** PC, PS4, Xbox One **Release** November 13



Things looked grim for Agent 47 after Square Enix and IO Interactive parted ways last year. Thankfully, Warner Bros has stepped in to rescue *Hitman*, which returns to the sandbox structure of the 2016 game in this sequel. New locales include a Miami built around an in-progress motorsport race. A standalone co-op mode intrigues – though not nearly as much as the potential disguise of having the silent assassin run a marathon in a flamingo costume.

FALLOUT 76

Developer Bethesda Softworks **Publisher** Bethesda Game Studios **Format** PC, PS4, Xbox One **Origin** US **Release** TBA



Following a deeply strange 24-hour livestream, Bethesda dropped a teaser trailer for *Fallout 76*. The title implies this won't be a mainline entry, while the Vault 76 setting suggests to us a multiplayer map. Whatever it is, we hope it's worth having suffered the sight of a Vault Boy puppet dabbing.

POKÉMON: LET'S GO

Developer Nintendo, The Pokémon Company **Publisher** Game Freak **Format** Switch **Origin** Japan **Release** November 16



Mobile hit *Pokémon Go* has clearly inspired this friendlier approach to a Switch entry. The Kanto-set *Let's Go! Pikachu* and *Eevee* will be reimaginings of the popular *Pokémon Yellow*, with players using motion controls to catch creatures instead of battling them. Expect Switch sales to (team) rocket.

WORLD WAR 3

Developer/publisher The Farm 51 **Format** PC **Origin** Poland **Release** 2018



***Get Even*'s developer is back, this time with – quelle surprise – its own take on battle royale. *World War 3* is a multiplayer FPS: Warzone mode promises a *Battlefield*-scale attack/defend clash with vehicles, while the Royale – sorry, Recon – mode tasks small squads with capturing high-value targets.**

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VIDEOGAME CULTURE, DEVELOPMENT, PEOPLE AND TECHNOLOGY



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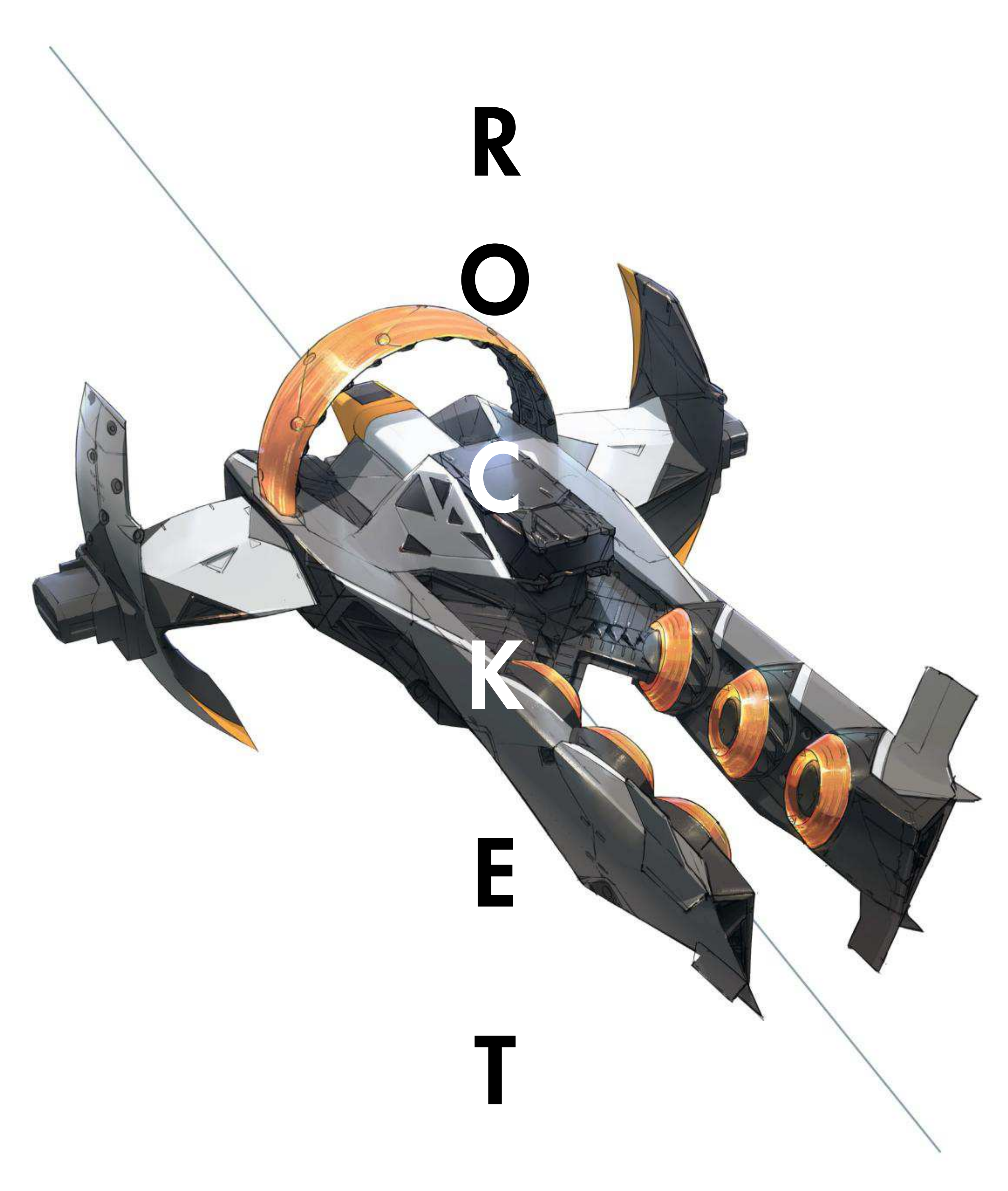
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R O C K E T



SCiENCE

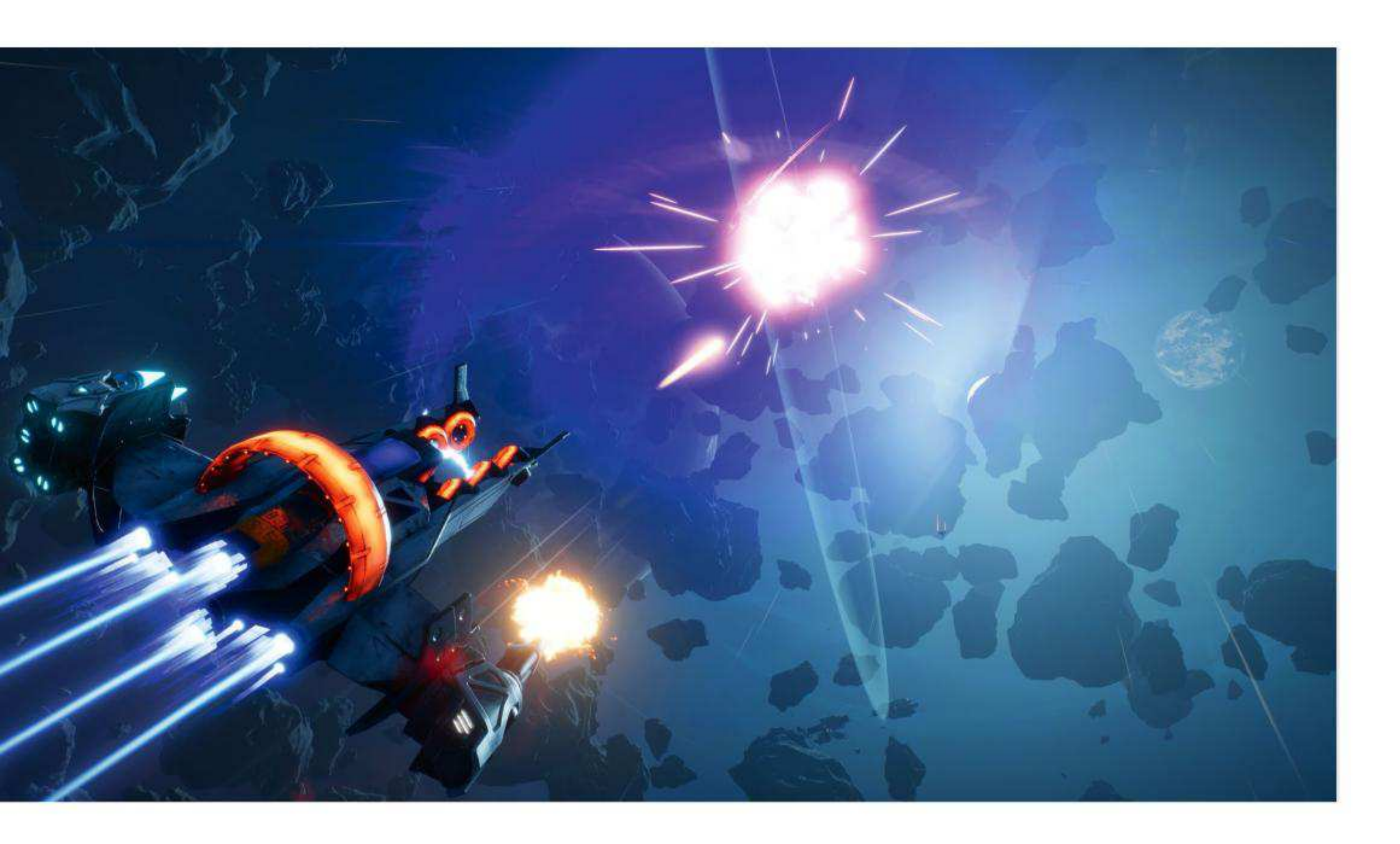
How Starlink: Battle For Atlas has the tricky business of toys-to-life down to a fine art **By Jen Simpkins**

Game *Starlink: Battle For Atlas*
Developer/publisher Ubisoft (Toronto)
Format PS4, Switch, Xbox One
Release 2018



Matthew Rose, producer

Laurent Melville, creative director



antasy is all very well when it comes to toy spaceships and virtual worlds, but business is another matter. As such, there's something irresistibly audacious about *Starlink: Battle For Atlas*. Ubisoft Toronto's open-world space adventure is powered by a set of model starships, which can be disassembled and reassembled into various combinations that are then replicated, and used, in-game. It is, to all intents and purposes, a toys-to-life game.

And toys-to-life, you may remember, is currently on a bit of a downward spiral, to put it mildly. Following the success of Activision's *Skylanders*, the nascent genre inflated rapidly, with plenty of would-be imitators throwing their RFID-tagged statuettes into the ring. The market, it seemed, was smaller than anticipated – one or two varieties of expensive plastic videogame is likely enough for most households – and the toys-to-life bubble is, if not already burst, looking dangerously fragile. Most of the genre's superstars have shut up shop: *Disney Infinity* and *Lego Dimensions* have ceased production entirely, while the *Skylanders* series is currently on indefinite hiatus.

These were games attached to huge brands: *Spyro The Dragon* being the foundation for *Skylanders*, Star Wars for *Disney Infinity*, and not just the eponymous plastic brick but any number of pop-culture darlings in the case of *Lego Dimensions*. By contrast, *Starlink* is an original IP that Ubisoft Toronto hopes will capture the hearts and minds of eight-to-twelve-year-olds – and those of their parents – everywhere.

Ubisoft is no stranger to risk. It's a company both willing and able to pour resources into admirable and off-beat concepts. But a brand-new IP that encourages the purchase of multiple pieces of plastic DLC, releasing at a time in which players are deeply suspicious of anything even vaguely microtransactional, is a bold gambit. But as long as eyes continue to light up when *Starlink* is presented and played with – the kids in playtests, the baffled but delighted journalists behind the scenes at E3, the ever-pragmatic Ubisoft CEO Yves Guillemot – Ubisoft is content to keep dreaming.

***Starlink* was born** of escapists and romantics – "oddballs", as producer **Matthew Rose** puts it. Ubisoft Toronto had wrapped development on its first game, *Splinter Cell: Blacklist*, and the quickly growing studio split up to begin development of several new projects in the summer of 2013. "I think it was a bit of an experiment on the company side," Rose says. "We were an inexpensive bet, taking people that had different ideas not only about what games could be, but how we'd make them. Eight people, go sit in a corner, you're kind of the weirdos – see what you can come up with." The mandate from Ubisoft HQ was to 'explore innovative gameplay concepts and uses of next-gen hardware with the goal of creating a mainstream concept'. "Basically, it was a blank slate," Rose says. "There was almost no guidance ▶

The game's three factions – Outlaws, Prospectors and Expedition – go about their business in the living open world. While the research-focused Expedition will reward your help with mods, Outlaws will attack on sight – leading to gloriously smooth dogfights



TOY STORY

One of our favourite details about *Starlink* is, well, the concept of Starlink itself. The title refers to the starships' modular technology – both in the real world, and in the fantasy one. "That breakthrough was already there technically when I arrived, so we knew we would need to integrate that," lead narrative designer Joshua Mohan says. In fiction, the ship parts are stored onboard the mothership, the Equinox, and beamed into battle via a kind of quantum super-positioning (which allows vehicles to exist both inside and outside of the Equinox – Schrodinger's' spaceship, if you will). "Because you can play as anyone, it's about the crew, not the individual," Mohan says. "We couldn't just pin it on any one person. We could have said 'It's just because Judge is magic', but linking the Starlink technology to the story is what allows it to be focused on the group. The technology allows everybody to work together."

in terms of genre, audience, technology, anything – it was just, *something*."

Once the initial terror subsided, work began. Most of the tiny team had participated in game jams, and were keen to bring some off-the-cuff, indie spirit to a triple-A space. Every two weeks, the team would brainstorm ideas. At the end of the first, they'd be condensed down to 30 pitches: these would then be voted on until the team were left with a top three. Prototypes were built during week two. "Our rule was to say no to everything," Rose says. The idea was to churn through as many ideas as possible before the Christmas 2013 deadline, whereupon the team would select their favourite and fly to Paris to present it to Guillemot.

"It was fundamental to us to learn that there's a *massive* gap between kids' games and M-rated, open-world games"

What would eventually become *Starlink* had been shelved around halfway through the six-month process. But there was something about the wonky assemblage of wires, Wiimote and Lego bricks (amazingly, the original prototype has since been dismantled thanks to disgruntled devs looking for the missing bits to their sets) that stuck in the mind. The game it was digitally attached to was simple, but the reactions from people walking past this strange little corner of the Toronto office were encouraging. "It was seeing people that weren't involved playing the game, how their imagination started to fill in the gaps, that convinced us that it was really special," Rose says.

Word travelled fast, and the *Starlink* team met all sorts of new friends. "There was one guy in particular who we found wandering around the studio one night," he says, showing us a photograph of a man flying his own scratch-built drone through the office hallways. "I met Vlad [Adamenko] at our summer barbecue, and he came to me – he's a funny guy, very direct – and said, 'You're doing this all horribly wrong.' I said, 'Okay'. He said, 'I can fix it'. I said, 'Okay, you're on the team.'" Soon, they had *Starlink*'s first real prototype, sat atop a custom motion controller that looked a lot like a miniature version of a PlayStation Aim Gun: a 3D-printed, hand-painted, Scotch-taped starship.

The playtesters loved it. "We were so nervous, because it was such a clunky prototype, it was falling apart," Rose says. "The game wasn't much – we built it in a month, because we spent too long prototyping – but we showed it to these kids and their jaws dropped and their eyes lit up." It was clear that this was the game to take to Paris, and HQ, and Guillemot. "We were overjoyed that he had the same reaction that the kids had. So he greenlit it, and that was that."

The final toys are tremendously polished, the ships set out before us in rows of gleaming plastic, interchangeable pilots standing by. They are pleasantly chunky but not inelegantly so: weighty enough in the hand, but surprisingly light when perched atop an Xbox One gamepad (the custom motion controllers were "misguided in retrospect", Rose says, ditched in favour of a bespoke mount for the PS4, Xbox One and Switch dual-analogue controllers that even the youngest playtesters were familiar with). Pilot characters clip onto the mount with a snap – introduced in-game via lavish cinematics – and the ship and transparent cockpit click over the top. When attached and removed, wings and weapons materialise in place on screen, the miniscule loading-in time perfectly disguised in a flurry of holographic animation. As we swap one red ship's speedy wings for those of a tanky blue outfit, and discard a Shredder gatling gun for a Flamethrower, the game keeps pace, each composite ship part locking into place, yet easily removed. In the interests of journalism, we sweep a toy off the surface of the demo table. It hits the floor and remains intact. "We have done a lot of safety testing!" the team laughs, in unison.

Initially, there were ports for up to three different weapons, for a shield, for a speed-boosting engine. "Great idea on paper, but it became so overwhelming in play," Rose says. "There's this constant back-and-forth between the toy and the game, and the game and the toy, and each changing each other. You could



have five different weapons connected, and no one could keep track. Something on X, something on Y… you're pressing the wrong buttons and doing the wrong things." The wings even split apart for more building options. Starlink was a great toy, but a bewildering game.

After many envious glances over at this group of former *Splinter Cell* teammates, creative director **Laurent Malville** had come to realise this. "What was lacking at the time was the transition from conception phase to actual game," Malville says. "The breakthrough was there, but the toy was too complicated. There were four or five connectors – almost more connectors than buttons on the controller. And there were some elements of an IP, but it was going a bit in every direction, and there was not really a game there. Matt said to me, 'I'd love for you to shape up the vision, simplify some parts of the game and really define it'." Now, there are just two main ports on each ship, one on the left side of the body and one on the right.

Upon picking up *Starlink* to play, the setup is simple and intuitive: our Shredder on the left side, the Frost Barrage on the right, each on the corresponding trigger. Our starship hovers and sways over the crimson grass on Sonatus in the same effortless manner as a Sparrow in *Destiny*. The '70s sci-fi-novel colour palette recalls *No Man's Sky*, although here every insectoid kangaroo and lantern-like flower has been hand-crafted. Everything shimmers with a sharp, alien iridescence.

We were almost expecting things to be visually coddled for a younger audience. But the Toronto team's guiding principle was to not talk down to their target market, which informed everything from the game's art style, to its structure and difficulty level. "Our initial version was a much more traditional kids' game," Rose says. "It was fundamental to us to learn that there's really a *massive* gap between those games – very linear, very hand-holding, very pastel and cartoony – and M-rated, open-world games. And there is *so* little in between. Kids are not playing those games out of transgression, and we've dug a lot into the data on that. They're playing them out of that desire for freedom, autonomy, choice and experimentation." ▶

You can visit the seven planets in *Starlink*'s system in any order. They are divided into three sectors: Easy, Medium and Hard. Even the Easy-ranked Sonatus is tough – with a living world, this Legion Prime fight can take place anywhere, and cover is sometimes limited





The Snowdrop engine has enabled seamless travel between space and solid ground – and fully circumnavigable planets. They varied in size before the team realised it was difficult for players to judge distances on each new planet they visited

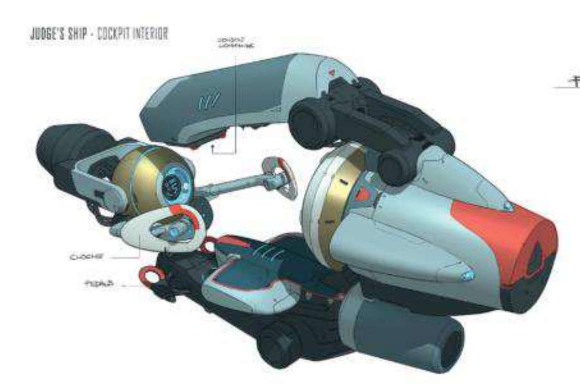
he result of a team whose collective experience includes work on *Far Cry*, *Assassin's Creed* and *Watch Dogs*, *Starlink*'s open world is sophisticated. You play as any one of the Starlink Initiative's pilots (most likely team newcomer Mason, included with the *Starlink* starter pack alongside a Shredder, a Frost Barrage, a Flamethrower, a ship, a mount and the game itself) in a bid to both deliver gaseous, hiveminded alien pilot Judge back to its home planet and save the star system from the Forgotten Legion's clutches. *Starlink*'s main threat is ravaging the land, using Extractors to mine rare Nova from planets. "They're dynamically taking over this world, and if you put the controller down and leave it running, they will infect and take over the entire star system," Rose says. Fortunately, there are allies to be made: factions in the persistent world require your help in building and levelling up outposts, upgrading defences and collecting research data (a scanning minigame has us adapting our ship's build on the fly for improved handling when circling skittish fauna). Help them out, and they'll respond by joining your fight against the Legion – even when you're not currently on a particular planet.

A planetside fight against a well-guarded Extractor does even more to show that the Toronto team doesn't want to patronise younger players. While it isn't exactly groundbreaking – destroy smaller towers to hit the main tower, deal with a wave of mobs, rinse, repeat – the mission requires both manual dexterity and a degree of tactical thinking. The Ice Cyclopes we're facing aren't fast, so we bolt more defensive parts onto our ship at the expense of speed. Switching our pilot to Shade, meanwhile, gives us her Vanish super ability on L1 to help cloak ourselves when the firefight becomes frantic. After being repeatedly frozen in place, we tear off our Frost Barrage and replace it with the Flamethrower. Its range leaves much to be desired – but it has another use. Setting the ground in front of us alight and skimming through the flames de-ices us, even if we do have to barrel-roll a few times to extinguish our craft. As we chip away at the Extractor, hopping our ship over the towers' electrical attacks, we experiment with weapon pairings, the game pausing every time we remove a piece (although, we are told, this feature can be turned off for a slicker, more challenging experience).

We become very attached to the combination of a Vortex blaster, a siege weapon that pulls groups of enemies together, and the Volcano gun, which not only 'sunders' enemies by reducing their armour, but as a heat-element weapon is ruthlessly efficient versus our chilly foes – especially when the vortex it enters becomes a ball of fire. "One of the pillars of the game is creative combat," creative director Malville says, "so ▶

You'll be able to buy some mods from outpost vendors with a currency called Electrum. The team are hesitant to confirm, but our questions on cosmetic purchases, and a photo mode, are met with smiles and waggling eyebrows









"Akira was a huge influence – you can see sprinklings of that, especially in the tech," art director Daniel Ebanks says. "In a sci-fi game, you've got to make the tech feel believable and appealing at the same time"

when we were building that idea, we were like, 'Why would I want to get more parts?' We don't want to block access to parts of the game. I would want to buy more parts because I want to build my loadout, and have more gameplay opportunities. That felt like way more of a positive reinforcement."

Indeed, while another siege weapon, the Levitator, isn't a critical pick – *Starlink* can be completed with the starter pack – its effects are certainly more entertaining than your standard peashooter. For the team, the challenge is to design extra purchasable pieces to be desirable, rather than essential. "Players are not looking at these add-ons as 'I need this', they're looking at it as 'I want this'," game director **Richard Carrillo** says. "It's easier to solve certain puzzles, or easier to take out enemies that were a little difficult before. And really, it needs to have its own character: it is difficult to make sure every weapon has that excitement built into it." To do so without balancing the game in favour of the non-standard weapons can be tough: while the Levitator has been toned down, our Volcano gun knocks a startling amount of spots off our Shredder or Flamethrower in this particular combat situation.

And it's similarly effective when we locate our main target, the intimidatingly large Legion Prime, a spider tank which sprouts icy armour along its joints. When we can manage to aim our reticule over them, that is: the Prime is having none of it, scuttling around to protect its vulnerable areas. This prompts us to rethink our ship yet again: we discard our fanciful four-wing assembly and reach for just one angular, handling-focused set, which allows us to easily and repeatedly zip through the spider tank's legs and pull a neat U-turn on the other side to resume our assault. We're finally given a reason to test our ship's athleticism, and it's exhilarating – as is landing Mason's charged super attack, an Orbital Strike so powerful that it whites out the entire screen.

We're aware that the wealth of pilots, wings and weapons we're experimenting with won't be immediately available to everyone. *Starlink* is, after all, a toys-to-life game, and players – or parents – will have to fork out for each piece of extra content that they want to own. But ownership of the toy is the crucial point here: Ubisoft Toronto has put significant thought into adjusting a typically grasping business model into something with a few concessions.
A slide puzzle we find during a sidequest in some ruins can only be solved using the ice element: our Frost Barrage does the job, and is included with every starter pack. Nearby energy canisters, held in our ship's anti-gravity beam, also do the trick for puzzles, just as they do in combat situations. The slide puzzle has several steps, however, and we wonder how much of a fumble other elemental challenges might be without shelling out for certain guns. But there's an alternative that strikes us as quite a sweet compromise: sharing. *Starlink* registers a connected piece for five days at a time, meaning players can scan in their friends' to try it out for a limited time (piece owners, naturally, will regularly refresh their own registrations, although we dread to think of the tantrums that may arise should a treasured cannon fall, unnoticed, down the back of a sofa).

An RPG-like system of individual pilot skill trees, and collectable in-game mods that can be equipped in slots on both ships and weapons to change their properties, will also help punch up the starter kit fare once it grows stale. But most shocking is a willingness to abandon *Starlink*'s USP entirely by allowing players to both play with – and even buy – digital-only parts. Indeed, for the Switch version of *Starlink*, it's the only option should you choose to play on the go with handheld mode: only the docked version supports the toys. But it's also about the flexibility of not having to lug your collection about while travelling, Malville explains. The question, then, is surely how many people will feel compelled to buy the plastic at all – while it's not been confirmed, we suspect digital parts may be slightly cheaper. "I think a lot of people are going to want to collect the starships because they look and feel awesome," Malville says. "But we also acknowledge that some people, maybe older players, might want to engage with the open world, the RPG mechanics, the dynamic progression of the Legion, and maybe that's what they will prefer to the toys." ▶

CONNECT LORE

The toys' custom connectors took a lot of work. "Everyone in the manufacturing world told us that we were crazy to make custom connectors, because making reliable connectors is a huge challenge," producer Matthew Rose says. It had to be something pre-manufactured, the team were told, if they hoped to pass the electrical tests and maintain their sanity: RFID tags read by a standalone receiver pad, perhaps. But none of the off-the-shelf connectors had quite the right feel, the tactile sense that a piece had slotted into place satisfactorily as well as the sense that it wasn't about to accidentally disconnect. The team tested various combinations of USB and magnet fastenings until they settled on their custom edge connectors, the chips enclosed in tall walls and deep-set receptor sockets.



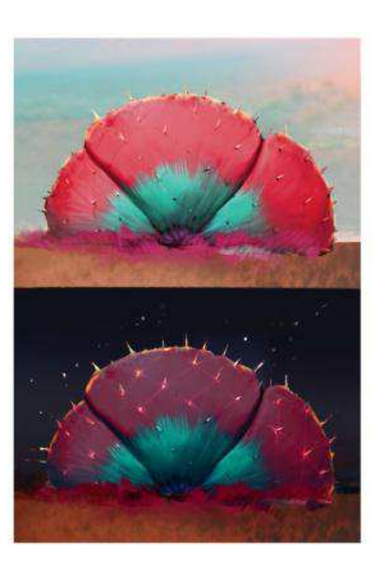
Richard Carrillo, game director

Daniel Ebanks, art director

or all the considered design, friendly business model and passion, Ubisoft Toronto needs to sell a considerable amount of stock to empty the warehouses and pay the manufacturers in China. Given the state of the toys-to-life market, making the toy starships an optional purchase could easily backfire. Both team and company, we suggest, must have been nervous about going all in on a toys-to-life game dreamed up in 2013, given the market appeared to crash just a few years later. "Oh, totally," Rose says. "You can't ignore it. And you see panic. Part of my job as producer is to manage the business as well, and we had to reassure everyone on the business side." Numerous data studies and focus groups have been instrumental in keeping the dream alive. "That was really useful for us, to then go back to the business guys and say, 'I know what you think because of this trend. But the data about this game is very encouraging'."

Playtesters have picked out the differences between *Starlink* and other toys-to-life titles, Rose assures us: the modular aspect, the open-world structure. The early reassurance was important for morale. "You have a lot of other people, other departments, other teams, and that's where you'd get some of that nervousness, some of that energy. But I think that's where a little bit of that kind of game jam spirit comes in – not necessarily rebelling against something in particular, but a belief and a faith in the creative process and in the innovation, how we were driving it and how it was coming together."

Rose – who was inspired by a childhood spent watching The Centurions and playing with Micronauts – is convinced a return to the screwball inventiveness of toy companies of the '80s is exactly what today's big-budget game scene needs. "I think it's something that the entertainment industry in *general* could benefit from. If you look at the biggest properties today, many of them were launched in that era. There's less of that experimentation now. I think part of the reason for that is people get nervous because everything gets put into a box. As soon as you try to do something new, people are like, 'Oh, I get it, it's *that*'. And it's like, 'No, we're trying to do something different'. For us, that's been a challenge."



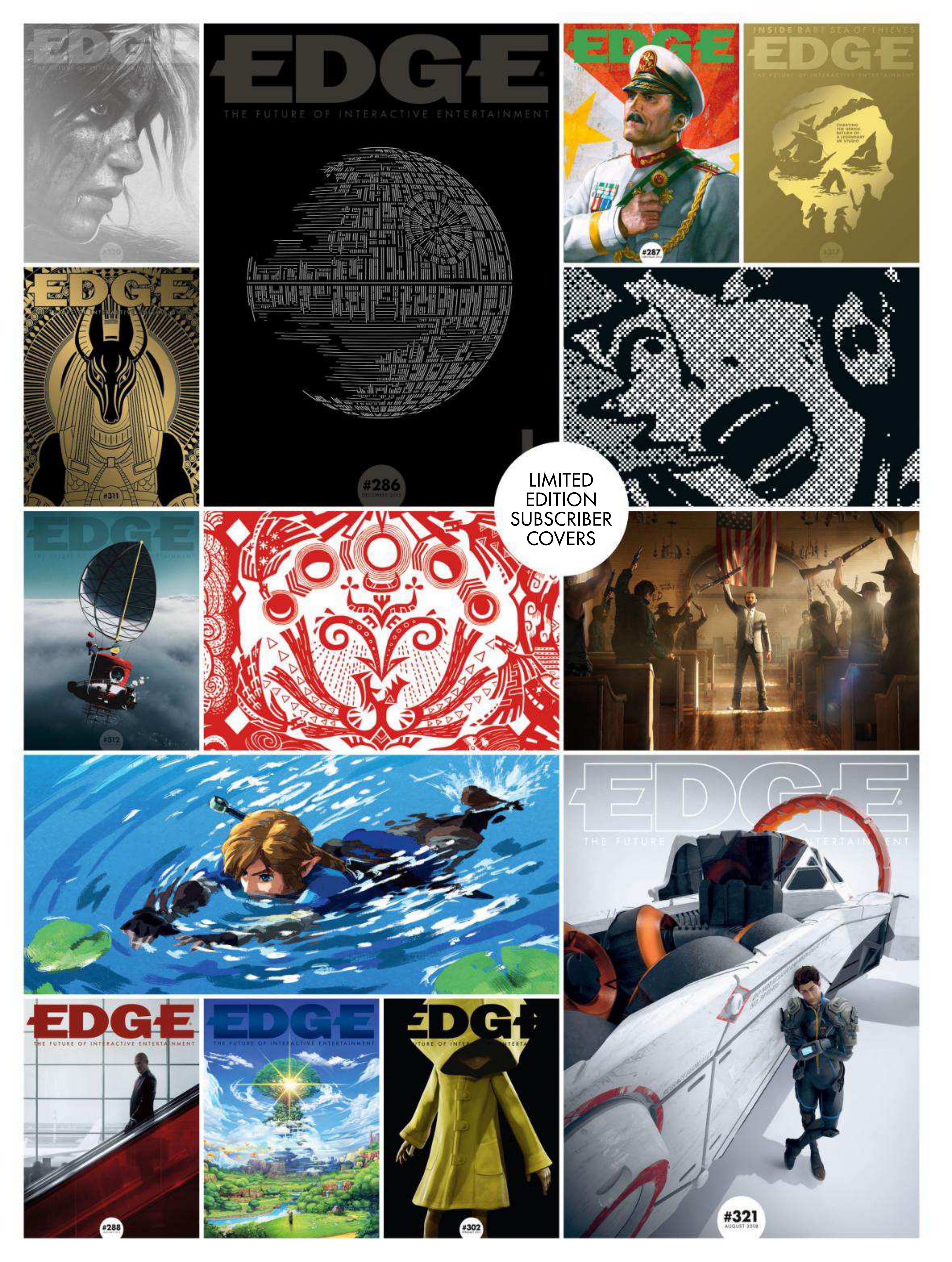
It's a project that's out to prove a calculated risk is a better thing than an absence of originality

Indeed, *Starlink* will doubtless appeal to nostalgic adults with a keen eye for collectibles. Whether today's pre-teen audience will respond to a Transformers-a-like as readily as they currently do to virtual currency that buys battle-royale cosmetics remains to be seen. It is worrying too, that *Starlink*'s cast of characters – with the exception of the hulking, conceptual and vaguely loveable Judge – are largely rather indistinct from each other, a selection of waspy-waisted silhouettes in skintight clothing. (If Luke Skywalker couldn't sell toys to life, we're not sure how well *Starlink* poster boy Mason, a bloke in a wetsuit, will fare.) Then again, whatever the marketing research might say about the importance of relatable humanoids, there's no denying that *Starlink* is really all about the starships.

It's clear that the team at Ubisoft Toronto understands the business challenges of their toys-to-life title, but also that it hopes *Starlink* will be about more than shilling as many plastic bolt-ons as possible. It's a project that's out to prove that a calculated risk is better than an absence of originality, whatever the outcome – and even that a balance between business savvy and a bit of rare magic could make what looks like mere fantasy a successful reality. "I always use the example of Mike Wasilewski," art director **Daniel Ebanks** says. "He's a programmer, a very serious guy – super cynical. He was coming onto the project and he was like, 'Let me see these things.' I watched, and he put a piece on for the first time, and he literally smiled and was like, 'Okay, this is pretty cool.' If we can convince him, then we've got something." Rose agrees: "You can get the most sceptical sales person who's like, 'But have you seen the trends?' and then you're like, 'Come *play*'. And they come and play with the toys, and it brings out the inner child in them. Everyone, when they see that spark of magic, that joy, it's what has kept the project alive." ■

WEALTH AND SAFETY

For art director Daniel Ebanks, working on a toys-to-life title has thrown up plenty of design challenges. "I've spent my career making stuff that doesn't actually have to exist," he says. "[*Starlink*] was a big eye-opener." Suddenly, little things like a piece of a ship being too thin to function were a problem. Manufacturing costs and practicalities, user comfort and safety issues were just as much of a priority as aesthetics: early on, Ubisoft Toronto hired an industrial toy designer from local toy company Spin Master, who helped guide them into the factory process. For Ebanks, one particular design compromise still stings: a multi-tonal red paint job that proved far too pricey to be realistic: "At my desk, I keep a wing that's just like, what might've been!"


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AN AUDIENCE WITH...

JADE RAYMOND

How EA's head of Star Wars went from programmer to producer, founder and studio manager

By Nathan Brown



CV

Jade Raymond's first job after leaving university was as a programmer for Sony Online Entertainment. She then moved to EA to work on *The Sims Online*, but her big break came when she went to Ubisoft Montreal in 2004, and was a founding member of the team that created *Assassin's Creed*, on which she was a producer and, along with game director Patrice Désilets, was the public face of the game. After the game launched, she was a target for hate groups, and withdrew from the press circuit, rising up the ranks to become Ubisoft's head of new IP, steering the likes of *Watch Dogs* and *The Mighty Quest For Epic Loot* from concept to release. In 2009, she helped found Ubisoft Toronto, and in 2015 joined EA and began to build Motive Studios while overseeing the publisher's Star Wars games and acting as VP at Visceral Games, the *Dead Space* developer which was shuttered last year.

Jade Raymond has done something few others in the game industry ever have: built studios for two of the largest publishers on the planet. The first, Ubisoft Toronto, this month stars on its first **Edge** cover. Her second, EA's Motive Studios, is now beavering away on a new IP. Ahead of her keynote at the Develop Conference in July, here Raymond shares her thoughts on what makes a good videogame studio, the future of the action-adventure, and what the industry still needs to do to become as diverse as its players.

Building a studio isn't just about staff and infrastructure; you're building a culture, too. What's your philosophy for that?

To be able to build a team, and put together a studio where you build a culture where you create kind of a place where people can do their best work, is super-motivating to me. I just feel really lucky to be doing that a second time. And with Motive, I really wanted to take a different approach; I really believe that games have gotten to a place these days, on large productions, where often individuals don't get a chance to have their own kind of creative input on the game. So one of the big objectives was to create a studio that could be creatively led. The studio name is about tapping into people's personal motivations for being in games, and creating something really special together.

That was one of the objectives. The other was really to create a diverse team. I definitely think, and I think most people will agree, that the industry has been evolving very quickly, and more and more people are playing games, and more and more different types of people are playing games. People in different countries, but also different age groups, and people you didn't think were playing games, are playing games now. I think that in order to create something really innovative, and something that can push the game industry further, you need to bring different types of people, with different perspectives, into the studio. So that was another thing: how can we create a studio, and game teams, that are really diverse – people that bring the best practices from a bunch of different studios, but also bringing ideas from outside of the game industry, or from different backgrounds?

Have you found it easier to hire a diverse talent pool for Motive than you did for Ubisoft Toronto in 2009?

> "PEOPLE IN DIFFERENT COUNTRIES AND PEOPLE YOU DIDN'T THINK WERE PLAYING GAMES ARE PLAYING GAMES NOW"

The two experiences were quite different. I started the Toronto studio with a core team of people from Ubisoft. Of course every new studio wants to create its own culture, but that was definitely an extension of Ubisoft best practices, set up by a core team of people who came from there. I think that's the difference here. We really came at it with, from the start, a diverse group of people. Kim Swift came to join the studio, she's known for her work on *Portal* but she also worked on *Left 4 Dead*. We have some people that come from studios in Montreal, but we also have people who we've recruited from elsewhere. Mitch Dyer was a journalist before, and he came and joined the games team as a writer on the *Star Wars Battlefront II* campaign, and brought in a whole different perspective from people who'd been writing for games for a long time. It was really an attempt from the start to bring in more diverse perspectives than we'd had in the past.

You say you want the studio to be creatively led. How do you ensure that happens on the shop floor?

We're working on a brand-new original IP now, and we're in the early days, so we're working on the concept. We have our pillars for the game, but when it comes to the way we go about having them come to life, and what we're going to prototype first, we have the designers break out into groups with all of the people on the team – not just the people in the design team, or within the production or leadership team – and run brainstorms with everyone around these pillars. It's a very rare thing, and something I haven't lived through before. But we're seeing a lot of great success with it so far. Everyone is passionate about games, so you get a lot more ideas, and more different ideas, than you would from the traditional way of going about it, which is having the designers have the design meetings. Those are the kinds



Motive's *Battlefront II* campaign didn't exactly set the world on fire, but was unfairly caught up in the furore over the game's multiplayer

of things we're doing: changing the process to make sure that, no matter what your role is, you get involved in those decisions.

The other thing we're doing now is defining the next milestone for the new IP. Instead of just working with the people who do the scheduling of the work, the creative director and design director have gone around the team in small groups of ten people, talking about the objectives, before scheduling happens. Everyone that's working on it has input on how to best achieve those objectives, and the ideas and the objectives are being tuned as they go. That kind of much more collaborative, open and involved process, I think, is going to get us more innovation and, ultimately, a better game.

It certainly sounds better. But also that it will take much longer, because you're involving so many more people. Do you just have to accept that's going to happen?

Well, when you're in production, there's a lot less time to go about that process. At one point, no matter what, you have a very clear understanding of the priorities for the game and the work that needs to get done, and you go into production. But I still believe that this is the best way to make games, even in the production instance, because often it's the people that are doing the work that know the best way to go about it. Even though it might seem like it might take time to have a discussion (laughs) it usually ends up saving time in terms of doing things in the right way.

I strongly believe that when people are passionate, when they care about the vision, understand it and feel like it's their own, they go the extra mile to add that special touch. I think that's where the magic of games comes into play. It's when everyone cares and is engaged enough that the game is filled with those special touches. I do think the benefits outweigh the potential time cost.

You started out as a coder, a very in-the-weeds role in which you solve one problem at a time. How different is your job today?

I work with the studio here in Montreal that I've been building, and we have an exciting thing to announce which is that we now have a Motive team in Vancouver. They're working on *Plants Vs Zombies*, and also another unannounced project. And I'm also working on the Star Wars brand for EA. So while, when I was at Ubisoft, I was managing one studio, now I'm working with multiple teams.

I think the thing that's really important when you take on multiple teams is that fundamentally you have to build trust, and trust the leadership. Your role is setting a clear vision and clear objectives, then getting the right people in place to make the games a success. If you keep an in-the-weeds mentality, as you put it, that's not going to get the results, because you can't scale.

I always believe that the best way to approach something is to always think that probably there are better ideas out there than your own. If you go out and try to hire the very best people, and your attitude is by default that their ideas are going to be better than mine, that's how you get to great.

Motive's debut was the singleplayer campaign for *Star Wars Battlefront II*, and while the furore around that was caused by the multiplayer mode, it must have affected you in Canada too. How did you ensure morale held firm at the studio?

I'm incredibly proud of what the team here did. People worked so hard getting that campaign out, especially ▸

Raymond's work on *Assassin's Creed* truly paid off for Ubisoft – it had notched up 100 million sales before it was 10 years old

in the context of a new studio, a diverse team coming together and getting to know each other. Coming back to that objective of creating a diverse team, I'm also proud that, if you look at the story, it's the first in-canon female lead in a Star Wars game, ever. At the end, you play as a 50-year-old mother, which I think is pretty cool! I think it's just a new type of character, and a new type of story, that is a different take to what you normally see in the game industry.

To me it's just been about letting people know how I feel about it. I think they also feel the same. Everyone on the game team, including DICE, worked hard. Yes, there were some difficult learnings, for sure. But I think the most important thing is to recognise good work when it's been done, and that's been my focus.

You're now making a new IP – something you have a lot of experience of. But the industry is very different these days. Costs are higher, the chance of failure is much greater. How do you navigate all that?

I got to work with the team making the first *Assassin's Creed*, then oversaw the brand. I also worked with the team that created *Watch Dogs*, and for a little while I was responsible for new IP at Ubisoft. This is not my first crack at it but, to your point, the industry continues to move, and things are always changing.

It comes back to us being creatively led. If you tap into the passion of the core team, and their excitement about what's going to be a game that they want to play, and then you make sure that the core team is diverse, with different perspectives, I think that's a great way to make a new IP. There are some fundamental things that I think don't change in terms of the approach, and those are the kinds of things that, you know, I'm able to lean on. But there are some things that do change, too.



BFII protagonist Iden Versio is an imperial soldier, letting Motive tell a different kind of Star Wars story

"I'M PROUD THAT, IF YOU LOOK AT THE STORY, IT'S THE FIRST IN-CANON FEMALE LEAD IN A STAR WARS GAME, EVER"

When I first interviewed at Ubisoft it was to join the *Prince Of Persia* team. They asked what I would do with it. I said, at that time, it would be great to take that kind of action-adventure game and imagine it in an open world. Anyways, I guess I managed to convince them because I got the job, then I managed to convince them to make a new IP. It was pretty clear to me at that time, 12 years ago, that was the direction that action-adventure games were going in because players, myself included, wanted more freedom. Now, fast forward, we have games like *Tomb Raider* that's sort of open world, Batman is open world, the latest *God Of War*… so it's definitely continued down that path since *Assassin's Creed* came out.

Okay, so, where are things headed next?

It's about looking at players and understanding what players want, what they're doing, and what's different about what they want now than before. Twelve years ago it was about making it more player-driven, giving them more autonomy; that's still true, but now I think the main thing is that it has to be more social, more shareable. Action-adventure players still want to be ▶



immersed and still want a narrative — but is it my narrative, or is it one that was written by game developers? Is it a way to express myself? Is it an immersive narrative experience that I can have socially? And is it one that needs to flex in order to include players' perspectives, and have players, in a sense, co-create? I think those are all the things that will help the team focus on innovation that can make the next big action-adventure game. That's what we're trying to do.

I spend a lot of time thinking about this stuff. In the past, there was this sort of broadcast model for everything. People wrote a TV show or a movie, and people watched it. I think games were in that broadcast model too; there's a linear experience that was written, and people consumed it. What we've seen in every industry over the last ten years is the engagement model: there's a back and forth, there's a dialogue going on. Players aren't just consuming something that was created for them, but are making it their own.

The new model that I see is the network engagement model, where now, when you think about players, it's taken another step. Players are not just consuming something, and they're even going further than engaging with it and making it their own. There are all kinds of different roles in the ecosystem: streamers, content creators and so on. I think the brand of the future needs to be crafted in a way that it really belongs to players, and all of those different roles that players have these days from the start. I hope I didn't lose you with all that.

Not quite. Though we're slightly concerned that you might have just confessed to the murder of *Prince Of Persia*.
(laughs) Don't put that in! Jordan Mechner's going to come after me! And to be clear, Ubisoft continued making *Prince Of Persia* games after that. Me and my team forked off and made *Assassin's Creed*. There was still *Two Thrones* that came out, and a series of games that came after. So that was nothing to do with me! And just to be clear, I absolutely loved *Sands Of Time*. I don't want to have a mob of gamers after me, please!

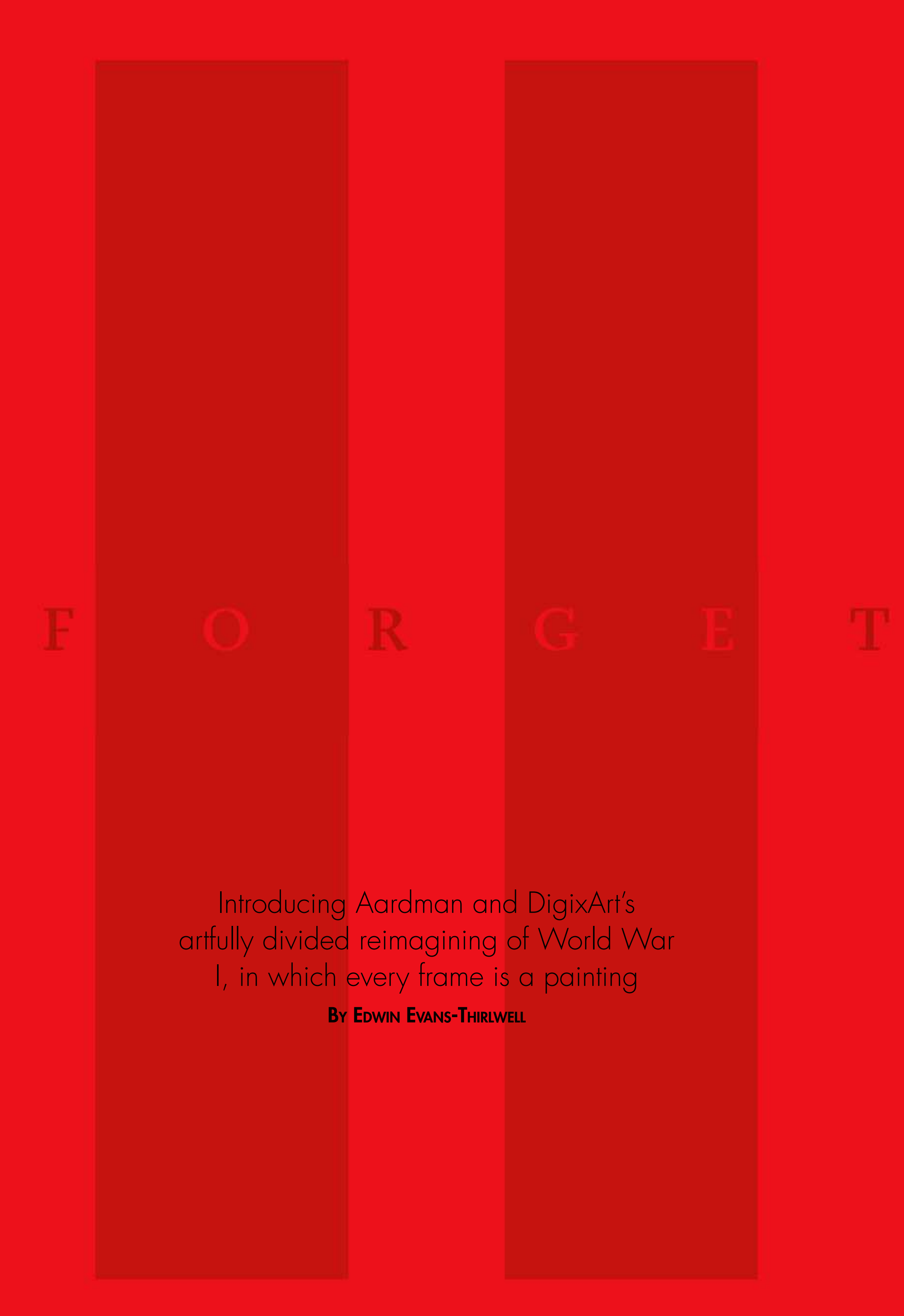
Speaking of which, you were something of a pioneer when it comes to misogynistic hate campaigns. Finally, the rest of the industry seems to be catching up. Is it better? Is it good enough? And what needs to be done to get it to where it needs to be?
I think we have a lot of work to do, still. It's something I'm passionate about. I love the game industry, and I'm so happy that I decided when I was 12 to do this. I've had a great career, I've loved people I've worked with, and I think we have the most exciting, talented people from all kinds of different realms to work with. I just love games. My objective is to share that love of games, and to also encourage more people, more young women, to join the game industry.

That point about creating a diverse studio is something I really care about — not just in terms of getting more women in the industry, but more different kinds of people, because I think that's how we will continue to create better games, and different kinds of games, and continue to grow the audience of people who play them. My main way of doing that is staying visible enough, and being a positive force, I guess, shining a light on all the great things and great opportunities in the industry. There are so many good things that I think it's important to highlight, and make women and different people understand that it's a great career, there are tons of good options, a place they should consider and could enjoy great success in. I think that's part of it.

In terms of EA, what's really exciting is there's a really big focus on diversity and inclusion. Within each studio we have programmes like Women's Ultimate Team, an employee-led group of which I'm an executive sponsor. There's a lot of work to do, and the way we do that work is by focusing on it, putting in extra effort, and keeping in mind the positives as well. ■

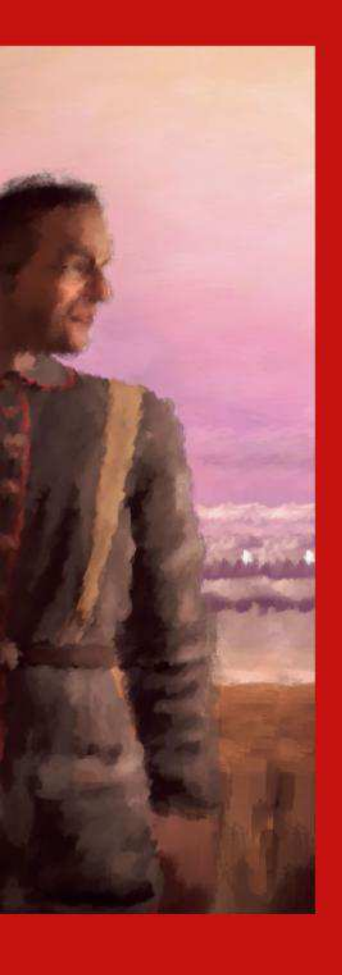
As well as speaking at this year's Develop, Raymond will also receive the Develop Vanguard award


L E S T W E



Introducing Aardman and DigixArt's artfully divided reimagining of World War I, in which every frame is a painting

By Edwin Evans-Thirlwell



The popular image of the Great War is one of simultaneous intimacy and distance, of opposing soldiers hunkering down for months in trenches as little as 50 yards apart, yet unable to see or speak to one another. This is an image *11-11: Memories Retold* both draws upon and labours to subvert, as it hunts for the smaller, quieter stories too often swallowed up by the war's thunderous mystique. A collaboration between legendary UK film studio Aardman Animations and Montpellier-based developer DigixArt, the game weaves its setting's cultural and geographical schisms into the art direction, narrative and mechanics in order to slowly erode them. Timed to coincide with the centenary of the end of the war, it's a rare attempt to explore a terrible conflict from both sides, and is notable for how it deconstructs the art of painting through its very engine technology.

11-11 is the story of two soldiers: the Canadian war photographer Harry, voiced by Elijah Wood, and a German communications officer Kurt, voiced by Sebastian Koch. It follows each character's actions in the days and weeks leading up to Armistice Day in November 1918, and allows the player to switch between their perspectives as they move from the rear lines to the front. Kurt's account takes the form of a series of letters, while Harry's is narrated in hindsight, and there is the possibility that they will eventually meet. You'll also spend time in the bodies of two animal companions, Kurt's pigeon and Harry's cat, who also live in the trenches. Neither protagonist is a combatant in the customary videogame sense, and while there will be puzzles of a sort, DigixArt and Aardman are keen to avoid "gamey" elements that exist for their own sakes. The project, DigixArt co-founder **Yoan Fanise** explains, aimed not just at enthusiasts but an audience of lay people who might not relish such repetitive challenges. Playing it, he says, should feel as simple as "turning a page".

***Memories Retold* began** life during the 2016 Games For Change festival, when Fanise ran into **Dan Efergan**, creative director for Aardman's Interactive division. Fanise had already worked on a First World War game while at Ubisoft Montpellier, 2014's *Valiant Hearts: The Great War*, and had returned to the subject after completing his first independent release, the music game *Lost In Harmony*. The two discussed a collaboration "on the sly" in the ensuing weeks, with Fanise doing his utmost to bury his Aardman peer in research materials. Matters came to a head when Bandai Namco expressed an interest in the project, giving Efergan just two weeks to reveal and sell the concept to his superiors.

Fortunately, they didn't take much convincing. The game appealed to Aardman both for the historical subject matter – studio co-founder David Sproxton is, Efergan observes, a "massive WWI geek" whose grandfather may have been involved in the legendary football matches between trenches over Christmas 1914 – and as a way of advancing its own standing as a game creator. "The difficult thing is that people assume we only make plastic-based animations," Efergan says. "We're always fighting that, particularly me." A prolific browser- and PC-game publisher, Aardman's digital division had struggled for direction following the decline of Flash in the late noughties. "I'd assumed it was like a ladder

"PEOPLE ASSUME WE ONLY MAKE PLASTIC-BASED ANIMATIONS. WE'RE ALWAYS FIGHTING THAT"

– we've proven ourselves, now we're going to move on to mobile apps. But during that time it all shifted to something very different – a mobile game is now a very specific thing, with freemium and everything." Across 2014 and 2015, Efergan's team made the critical decision to "leapfrog" mobile in favour of larger projects with an emphasis on "character and story, emotions, heart and connections with people". *11-11: Memories Retold* proved the perfect fit.

The immediately captivating thing about *11-11* is its aesthetic and technology. To use a much-abused phrase, the game resembles a painting, but where other games that deploy similar aesthetics only apply static textures to their worlds, *11-11*'s secret is that it treats each individual frame as a two-dimensional painting, with an engine that layers up 'brushstrokes' dynamically in real time. The result is an experience that evokes a canvas in the act of being painted, with up to 75,000 individual strokes per frame.

Game *11-11: Memories Retold*
Publisher Bandai Namco
Developer DigixArt, Aardman Animations
Format PC, PS4, Xbox One
Release 2018

The engine, based on Unity, attempts to replicate not just the texture of oil on fabric but the decisions a human artist might make about brushstroke angle, length and duration, qualities of light and which details are most significant. "It's millions of tiny little choices, and we're trying to interpret that into a process," Efergan says. "Behind the scenes you have what we kind of class as PS2-quality graphics, basic textures and renders happening underneath, and then that information creates the basis for each paintstroke. And then on top of that you've got the angle of the stroke, what brushes are used, how long each stroke should be, how fast they should be."

"To make a shader paint as a human might we studied the closest thing to an animated painting we could find," art director **Bram Ttwheam** elaborates. "There's a technique of oil painting onto glass, photographing it and then overpainting the next frame – the master of this is Alexander Petrov." *11-11* seeks to mimic many of this technique's quirks. "For example, continually overpainting an image produces a shimmering effect we refer to as 'boiling', which our shader can reproduce." The game also captures the scale of each stroke along with artful blemishes such as imprecise edges: "We have an atlas of brush types for stippling effects, palette knives and soft-haired brushes." Realising all this has involved a lot more work than expected, largely because computers simply aren't capable of the variety and calibre of decisions a human painter might make. "Our 3D artists are having to layer more and more information onto each object within the scene, the background, to help the computer make the right decisions," Efergan says.

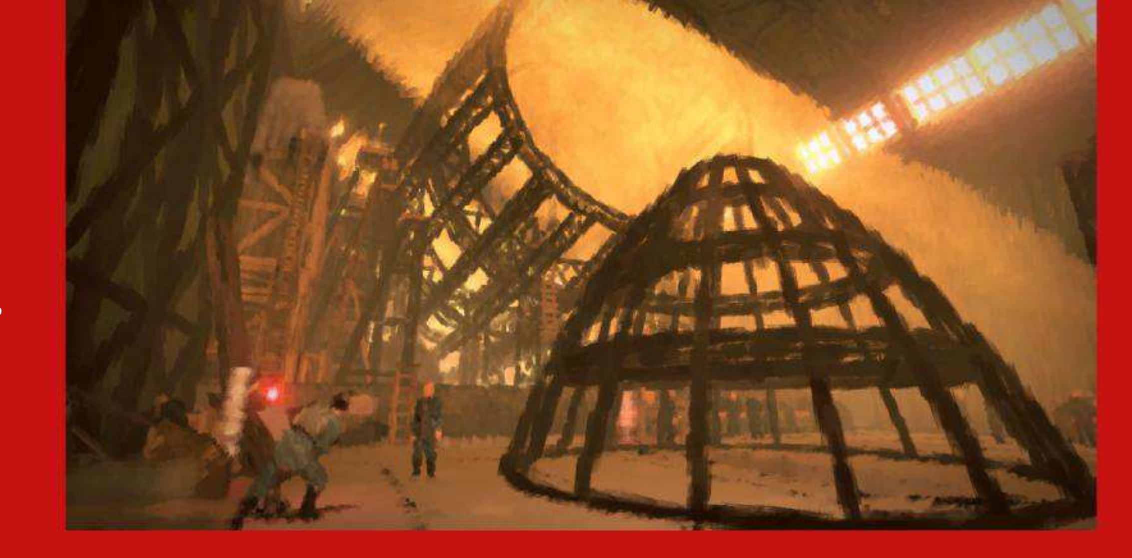
Petrov's techniques aside, the game takes some inspiration from Impressionism, the once-derided 19th century movement pioneered by Claude Monet, which grants priority to the fleeting play of light and colour via rapid, broken brushstrokes and dabs. As a reference, Impressionism is a ▶



Yoan Fanise, co-founder, DigixArt

The developers have experimented with notes of outright fantasy. One abandoned idea for a scene saw mustard gas taking the shape of an enormous hand

11-11's workforce has swelled to include teams in Singapore and Montreal. There were plans for a German studio to help balance the portrayal, but this proved too logistically complex.

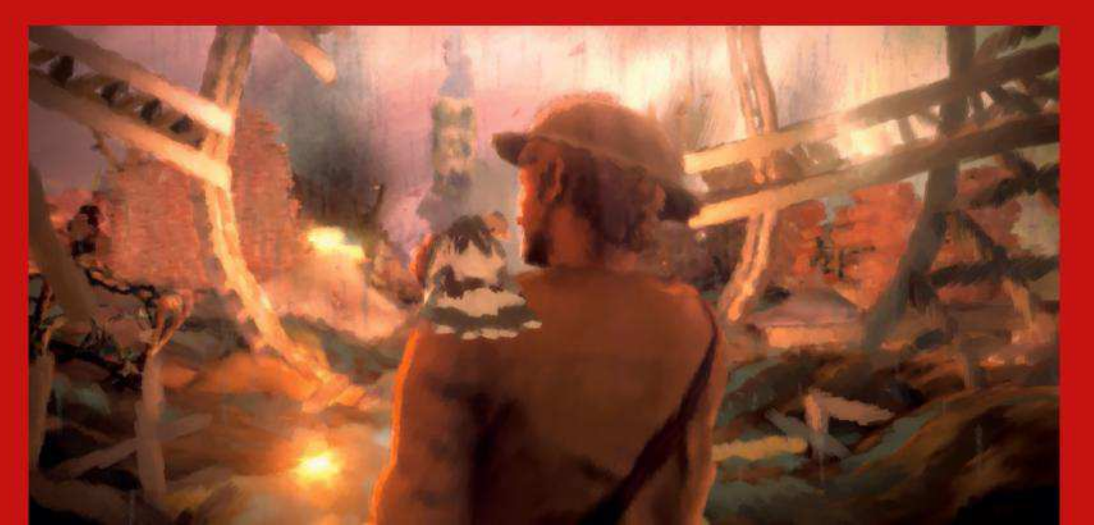


THE WAR ON GENDER

Aardman and Bandai are mindful of current arguments around gender diversity in games – EA DICE's *Battlefield* series, which took players back to World War I last year, has recently come under fire for including female soldiers in the WWII-set *Battlefield V*. Daniel Efergan brings up the topic without prompting, defending the choice of male protagonists. "We really believe in role models, in constructing role models [for everyone]. But when you go back to that period of time, you have a sexist, homogenised environment which you're trying to replicate." Bandai Namco producer Lionel Lovisa is a little more combative. "We didn't even have that in mind. We know we'll always find somebody who's not happy about that – 'oh, there's no girl'. We did our best to be as respectful as we could to everyone."



11-11 is a conscious effort from Bandai Namco to diversify its slate beyond the anime adaptations and grim-faced action-RPGs for which it is best known



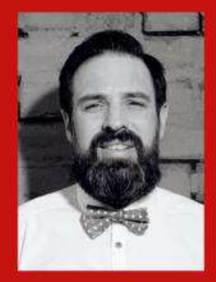
useful way of playing out some of the game's narrative preoccupations, Ttwheam suggests – it is more "subjective" than classical realist painting, allowing for a stronger sense of mood or import in the illumination and texturing of a scene. The studio also considered drawing on movements that began life closer to the time of the Great War, amongst them Cubism, in which objects are broken down into stark and unearthly geometric shapes on a 2D plane. "There was talk of shellshock and Cubism and the deconstruction of reality," Efergan recalls. "But deconstructing reality is a lot harder when you're locked to a 3D physics engine underneath." Ttwheam also found that Cubism along with the contemporary Expressionism and Futurism movements were too "rigid" or "brutal" for the story Aardman and DigixArt wanted to tell.

In resorting to such traditions, the developers are conscious of cutting against the industry's obsession with photorealism

"DECONSTRUCTING REALITY IS A LOT HARDER WHEN YOU'RE LOCKED TO A 3D ENGINE UNDERNEATH"

and high fidelity. "It's something that has always confused me, this desire to create something more perfect than reality," Efergan says. "To me that seems crazy, because when you're creating art it's about choosing and styling the information you give to someone." For all that, *11-11* is to some degree inflected by audience expectations for games of a certain scale. "Bram showed me an animation he did, in the Futurist style, and I told him it looked very nice, it really fit," Fanise adds. "But for a gamer, a young gamer, if you don't know anything about art history, you'll see that and just think it's a low-poly cheap game."

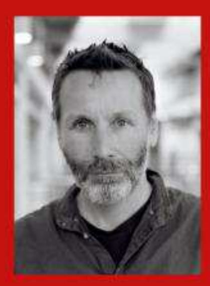
11-11's visual direction fascinates partly because it resists the notion of a static reality, a solid world beneath representation: instead, it foregrounds the construction of reality, moment to moment. This sits provocatively alongside a story about the experience of conflict from each side, which sets out to explore both how the opposing forces demonised one another, and the ways in which individual participants broke through those representations. "It's about seeing how those points of view communicate and how communication changes," Efergan says. Dispelling myths about the Germans has been a particular priority. Aardman and DigixArt considered playing on propaganda caricatures of German soldiers as an opening scene, but grew concerned that international audiences might take these portrayals literally. "You're


Dan Efergan, creative director of digital, Aardman


The game's score uses a full symphony orchestra, a rarity for a project of this scope, and takes inspiration from Claude Debussy among other composers of the period

playing on a cultural twist that is projected by the Allies and the UK in particular," Efergan tells us.

Integral to all this are the game's perspective switches, which let you pierce assumptions about the men in the opposing trenches, metres away. "On the French and British side, they thought that the Germans were really strong and healthy," Fanise comments. "And in fact they weren't, because over 1917, 1918 there was a huge famine in Germany, due to the Allied ▶



Bram Ttwheam, art director

blockade. This was why the War stopped in the end: it was because Germany had no more food, no more metal to create shells. So when you switch sides you can see what they have in common, and also what they think about the other side, what they get wrong. It's a pedagogical thing." The switching mechanic also shapes the colour scheme, and composer Olivier Deriviere's orchestral score. Each side has its own subtly differentiated palette, which shifts depending on how far you are from the frontline, and the soundtrack features two opposing melodies that slowly intertwine as Armistice Day approaches.

As part of the process of exposing and dismantling illusions, each protagonist is defined not by a weapon but their ability to shape perceptions of the War. Equipped with a Kodak camera, Harry must decide what kind of legacy he wants to leave behind him. "Do you take the pictures you were asked to take, for the official propaganda materials, or do you want to take other types of photos, that you think are a testimony to what happened on the front?" Fanise posits. "World War I was the first time this question had been raised, because it was the first war where you had portable cameras. But you could also fake things, you can lie, you can do whatever you want with a picture." Kurt, meanwhile, can use his tools as a communications technician to listen in on conversations and make connections, though the developers are tight-lipped about specifics. "To some degree, and it's not as neat as this, you have audio on one side and vision on the other," Efergan says.

The game's language barriers are every bit as crucial to its representation of the war as the blurred and cratered wilderness of No Man's Land. "When you read all the letters and testimonies from World War I, this linguistic confusion occurs all the time," Fanise says. "Because the British and French were together but they didn't always understand one another, so there were vocab books. And sometimes there were

Respect for the fallen is an oft-mentioned theme of *11-11*. As with other World War tales, this risks defanging the game's criticism of the war itself and of wars generally

encounters with the enemy when you went to fetch water, and there was just one place to get the water for both sides, where you weren't supposed to shoot." It was vital to be able to communicate in such situations, but communication with the enemy was, of course, taboo – a contradiction Fanise finds fascinating. One early version of the game had some of the cast speaking "gibberish", and asked the player to infer what was being said, but as the quantity of lines increased this proved more comic than compelling. The developer ultimately opted to have all characters speak in their native tongues.

Among the game's more fantastical elements are its animal companions, who are based on accounts of cats brought to keep trenches rat-free and pigeons used for communication and, less kindly, to detect gas. Though to some degree symbolic extensions of their owners, they provide their own, independent perspectives on the conflict, unconstrained by either the

"THE QUESTION WAS: WHY ARE WE STILL KILLING EACH OTHER, WHEN WE KNOW IT'S GOING TO STOP?"

butchered geography or any allegiance to king and country. "The cat could run from one side to the other," Fanise says. "It could go backwards and forwards between lines and be stroked by different people. You can imagine, if you could talk to them they'd be like, 'What the fuck are you all doing'?"

The cat also lends itself to the intimacy of trench life, in keeping with a desire to retrieve individual stories of humour and mundanity too-often buried under a mythos of valour and suffering. "One of the misconceptions people have about WWI is they think it was all battles, rushing over the top and dying," Fanise says. "That was like two per cent of the time – the other 98 per cent was just waiting for orders, or digging, preparing for attack. It was mostly boring. They were playing cards, they were making jewellery and cutlery from shell casings."

Harry and Kurt are able to influence each other's stories somewhat: in switching between them you'll witness the wider effects of their decisions, direct and indirect. Their different tools aside, the two are separated by age – Harry is a fresh-faced Toronto teenager swept along by ideals of heroic conflict, while Kurt is older and more disillusioned. The change of narrative tense and style between protagonists keeps the player at an engaging, analytical remove from the events of the war, according to writers **Stephen Long** and **Iain Sharkey**. "You get a sense of intimacy with Kurt's letters," Long says. "Whereas with Harry, his arc is loosely boy to man, a coming-of-age story, and so to get that sense of looking back – it sat quite nicely alongside his naïveté in the moment. With Kurt it became important for us to track his mental state." Kurt is something of a pacifist, albeit one who is happy to work in a weapons factory; his time at the front has as much to do with certain unspecified personal objectives as serving the Kaiser.

For Fanise, *11-11* is more than a homage to the Great War: it's a testing ground for pedagogical and narrative tactics that could be applied to many other situations, and many other relationships between individuals or groups. "I think I can say this, but *Memories Retold* for me is a brand that goes beyond *11-11*. Let's say we remove WWI and treat on other subjects, with the same mechanic of two viewpoints." He posits a game about slavery, with the player looking through the eyes of both slaveholder and victim. He also suggests a game about present-day sexism, which recounts life at the office from male and female perspectives, showing how the same situations breed different reactions.

Without having laid hands on a build it's hard to say whether this is a case of praiseworthy boldness or over-reaching – the rhetoric of there being "two sides to everything" often leads to dangerous equivocations. But the new game remains a compelling prospect, a dismantling and excavation of a blighted era that might, in its rippling play of layers, perspectives and textures, capture something of war's weirdness where other games see only the bloodshed. "You felt this anger growing right up to the Armistice, when it got to the point when everybody knew it was going to happen," Fanise says. "They didn't know exactly when peace would happen but it was in the air, and the question was: why are we still killing each other, when we know it's going to stop? It was this weird moment. Why doesn't everybody go home?" ■

PERIOD TEXT

11-11 **draws heavily on the research of two historians, Peter Doyle and Robin Schaefer. Their research has turned up some startling revelations. "If we'd wanted to, but we didn't, we could have used the acronym 'OMG', because that was actually in used back in WWI," writer Iain Sharkey says. "But then you start thinking: would an audience look at that and just think we're using modern language, and that'd be really weird? So you have to discount bits as well because you're thinking about it from a modern angle. It's such an odd balancing act." His co-scribe Stephen Long was initially keen to work the term into the script. "But I think it just makes you a wanker, then, like you're waiting for somebody to call you out, so you can turn around and say, 'Ah, well, I think you'll find…'"**



Writers Stephen Long and Iain Sharkey

THE MAKING OF...



SUBNAUTICA

How a group of Half-Life modders discovered the fear and wonder of the ocean

By Edwin Evans-Thirlwell

Format PC, Xbox One
Developer/publisher Unknown Worlds Entertainment
Origin US
Release 2018

Every work of fantasy is defined as much by what it escapes from as what it escapes to. *Subnautica* transports you to an extra-terrestrial ocean, a lush 3D survival sandbox extending four kilometres across by two kilometres straight down. Marooned by a starship crash, the player must hunt for food, gather resources, fashion equipment and comb the seafloor for answers while awaiting rescue. This is a perilous environment, its kelp forests and cave systems haunted by snaggle-toothed pack-hunters and speeding leviathans. But it is also a serene, meditative place, characterised by a scarcity of combat elements, as developer Unknown Worlds Entertainment sought to disentangle itself from virtual violence in the wake of a real-life atrocity. In December 2012, just as the studio was completing work on a commercial follow-up to its *Half-Life* mod *Natural Selection*, 20-year-old Adam Lanza shot and killed 26 children and adults at the Sandy Hook Elementary School in Connecticut. The massacre led founder **Charlie Cleveland** – already somewhat disenchanted with PvP gun games – to rethink his creative priorities.

"When Sandy Hook happened, I knew that if I was going to make games it would have to be something I could really stand behind, be happy about adding to the world," he says. "And that was also after *Minecraft*, which showed us how wonderful sandboxes could be – games based around building, rather than competition and violence. I was really pissed off with our government for not doing anything about gun violence, refusing to make changes, as we can see is still the situation today. I felt like this was one thing we could do – make a game without guns." Cleveland doesn't believe that playing violent videogames in itself leads to violent behaviour, as some US politicians have cynically tried to argue of Lanza. "But a culture of violence is obviously a problem, and games contribute to the culture of violence."

Having moved to San Francisco in 2013, Cleveland began throwing around ideas for a non-competitive sandbox sim with co-founder Max McGuire while the rest of Unknown Worlds carried out support for *Natural Selection 2*. One early concept was a co-op space station construction game, but Cleveland felt the market for space-themed games was saturated. The ocean, he felt, offered the same "excitement of boundless potential" as space. After half-a-dozen



Bustling with edible sealife, the Safe Shallows area was one of the first to be built. It serves as the hub of the map

prototypes and a few months of work, Cleveland and the company's leads had a formula they were ready to move ahead with, and began bringing in members of the *Natural Selection* team.

There were immediate financial challenges. While making *Natural Selection 2*, Cleveland had been reluctant to court investors for fear of losing control. The game proved a sales success

"WE HAD TO MAKE KEY DECISIONS ABOUT THE WORLD BEFORE WE EVEN KNEW WHAT THE GAME WAS"

but cash remained tight, and Unknown Worlds was obliged to take out a bridge loan in order to make *Subnautica*'s Early Access launch in 2014. "We had enough money to make another game, but if that game didn't do well, we'd have been back where we started with basically nothing, really scrambling," Cleveland says. The developer's early commitment to the Unity engine also had ongoing repercussions. "Making a giant open world in Unity was a massive challenge. It's not designed for it! Streaming, it's not designed for. The pop-in isn't great." Among Cleveland's chief regrets is that Unknown Worlds neglected to review the technology's suitability before moving out of the prototype stage.

As *Subnautica* went into production, there was uncertainty over its direction beyond the principle of exploring an aquatic environment for resources to build things with. Unknown Worlds had cut its teeth on gunplay, and for a while, the change of focus left a void at the heart of the new game. "Conflict works in games." Cleveland says. "It's an easy path forward, a known path forward. Find creatures, shoot them, get stuff from them, build crafting ingredients, get new stuff and use that to explore – that's the normal loop in a survival game, so without combat, how the heck does that work?"

These anxieties went hand in hand with questions of priority between development disciplines. "We had to make key decisions about the world – how big is it, how deep does it go, how dense is it – before we even knew what the game was. So every time the level designers would ask, 'How long does it take to get to this area, how many creatures are there?' All those are gameplay questions which we didn't have answers to yet, and you end up in a cycle where nobody can make a decision because it relies on somebody else." Cleveland eventually broke the deadlock by declaring that *Subnautica*'s environment should always come first. "I had to say: 'I am just going to be constrained by the world that you guys create, and I'm going to guarantee that we'll have a good game, built into the world.'" At around this point the studio also abandoned the idea of a procedurally generated map, fearing that the game's seabed would appear too indistinct.

While Unknown Worlds' designers were embroiled in the creation of *Subnautica*'s verbs and props, its artists and programmers were wrestling with the textures of the ocean itself. "One of the largest difficulties we faced was making the world look and feel underwater, without relying on the traditional approach for underwater levels in games – extremely pulled-in fog providing short viewing distances, lack of colour and a strong blue tint on everything," art director **Cory Strader** explains. Initially committed to a direct simulation, the developer grew concerned that *Subnautica*'s ocean would look "monochromatic", boring rather than enticing. "Real-world water absorbs the longer wavelengths of light, like reds and greens, at a very shallow depth, [but] that would have really detracted from the vibrant alien world we wanted to create," Strader notes. The game's much-iterated-upon lighting system vividly recreates the absorption and scattering of sunlight by seaborne particles, but allows it ▶

to travel further through the water than it should. The programmers also added various controllable parameters, so that level designers could tweak particle density and wavelength absorption to suit each region.

The game's pressure mechanics strike a more obvious compromise with the laws of physics. The risk of a predator encounter or obstacles such as sealed doors aside, exploration through *Subnautica* is gated by your oxygen capacity and each vessel's (upgradeable) maximum safe depth. The depth mechanics are, as Cleveland concedes, quite artificial. "You're not taking any damage until you get to 299 metres, and then when you get to 300 you're taking damage." But that rigidity helps orient the player in a bewildering medium, and these are boundaries you can bend in tense and rewarding ways – exiting your sub at just above the point of implosion to swim down to some half-glimpsed tempting artefact. The ability to roam outside without feeling the effects of pressure, poking around in the glare from your vessel's running lights, proved a hit with early buyers, so much so that Unknown Worlds decided not to let players gather objects while inside each craft. Gradually unlocked in the course of the game's 30-40 hours, the subs also serve as elegant transition points for *Subnautica*'s core loop of discovery, scavenging and crafting. The chubby single-seater Seamoth is your primary means of reconnaissance. The huge Cyclops is a mobile base, with room for food and water production besides a dock for smaller ships. "You want to have each vehicle operating in a different way, so when you get one it doesn't make another obsolete," Cleveland says.

As *Subnautica* moved through Early Access, it became a favourite with YouTubers looking for a relative unknown to build a Let's Play series around. Two in particular would prove critical to the game's fortunes – Mark Edward Fischbach or Markiplier, and above all Seán William McLoughlin aka Jacksepticeye, who released his first *Subnautica* video in April 2015. "He literally made our studio a success," Cleveland says. "That's when our numbers started spiking up, and it's all because of him and other YouTubers." As the impact on sales became apparent, the developer made course corrections to intrigue YouTubers further. Base-building, added later that year, was one of the "biggest inflection points" in the game's viral growth, allowing dedicated ▶







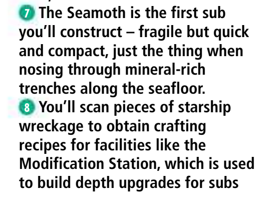






1 A handful of surface-level environments, the first of which you'll probably discover 10 hours in, freshen up exploration while adding to the planet's enigmas.
2 The player's first home is your escape pod, which comes with a 3D fabricator, radio, healthkit module and basic storage facilities.
3 The plot's key revelations are found in technologically advanced structures deep in *Subnautica*'s recesses. While grand, none of these edifices are as marvellous as the ocean itself.
4 The Prawn Suit speeds up mining operations, making it essential for more ambitious construction projects, and allows you to hop giddily over pits of corrosive brine.
5 Ancient teleportation archways permit limited fast travel later in the game, once you know the map and its hazards inside and out.
6 The massive Cyclops is big enough to have several rooms, each with space for cosmetic or functional furnishings. An early concept featured custom-built subs, but this was hard to balance.
7 The Seamoth is the first sub you'll construct – fragile but quick and compact, just the thing when nosing through mineral-rich trenches along the seafloor.
8 You'll scan pieces of starship wreckage to obtain crafting recipes for facilities like the Modification Station, which is used to build depth upgrades for subs





players to express themselves through a world that already fascinated them.

There was also a broader shift of emphasis towards horror, inspired by YouTuber reaction videos, with certain biomes and creatures designed to terrify. *Subnautica*'s star in this regard is the Reaper, a gigantic sea serpent that can seize your submarine in its mandibles – quite the shock, after five to seven hours of relatively peaceful delving and tinkering. "That's all Cory, and I was so against putting that thing in there," Cleveland reflects. "I didn't want this to be a horror game, and I just thought it was a cheap trick. And the Reaper was the secret to success – I mean, I can't imagine a better thing we could have put in than the Reaper."

Strader sums the creature up as "a perfect nightmare generator", but expresses affection too for the game's smaller prey fish, including the whimsical Peeper. "It was one of the creatures that exemplified the slightly stylised look of *Subnautica*, with its simple, easily recognised silhouette and giant eyeballs giving it an endearing but goofy appearance." *Subnautica*'s creature design naturally makes reference to Earthly sea lifeforms, many far stranger than anything you'll meet in the game. "The challenge was trying to come up with creature designs that look even more alien than what actually exists, yet remain relatable," Strader explains.

Among the last things to be added to *Subnautica* was its plot, which sees you scouring the ocean for fellow castaways and ultimately wrestling with the legacy of an extinct star-faring species. The game's writer Tom Jubert was enthralled by the Early Access release and approached Cleveland with some ideas in mid-2015. Much of Jubert's work on the game consisted of narrative justifications for existing features, and working between departments to create storytelling mechanisms such as your escape pod radio. "We went through many iterations [of the plot]," he says. "One version had no precursor aliens at all. One version had the entire planet as a nature reserve. Within a few months we'd settled on a rough structure that didn't change too much, but I don't think we had a solid ending until the final year."

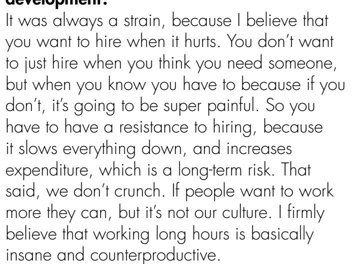
Jubert's presence on the team also helped flesh out a strain of ecological commentary intrinsic to the idea of a vibrant ocean simulation with an aversion to bloodshed. The game is at odds with itself on this count, alluding to the entwined issues of unregulated capitalism and environmental collapse while simultaneously encouraging you to stripmine its world for personal gain. Jubert acknowledges the tension, but argues that like a good Star Trek episode, *Subnautica* finds a balance between innocent adventure and cultural commentary. "I have never been interested in producing escapism," he adds. "Whatever it is that we, humanity, are trying to escape from, trying to avoid considering – I'm trying to put that in our faces, albeit in a fun, accessible way."

Subnautica's success as a sci-fi game that eschews conflict remains its greatest challenge to contemporary industry thinking. Aside from being one of the year's finest survival experiences, it is cause for optimism among the architects of alien worlds that are dangerous yet not actively designed around bloodshed. Cleveland's public statement of the game's anti-killing ethic in early 2016 attracted a little controversy, but the studio has long since outgrown these misgivings. "In the beginning, before the game was good, players were asking for things like harpoons, but as the game got more developed, people stopped suggesting that we add that stuff," Cleveland says. "It became good enough that they didn't feel the need." ■



Charlie Cleveland

How did you approach bringing on new staff throughout development?



It was always a strain, because I believe that you want to hire when it hurts. You don't want to just hire when you think you need someone, but when you know you have to because if you don't, it's going to be super painful. So you have to have a resistance to hiring, because it slows everything down, and increases expenditure, which is a long-term risk. That said, we don't crunch. If people want to work more they can, but it's not our culture. I firmly believe that working long hours is basically insane and counterproductive.



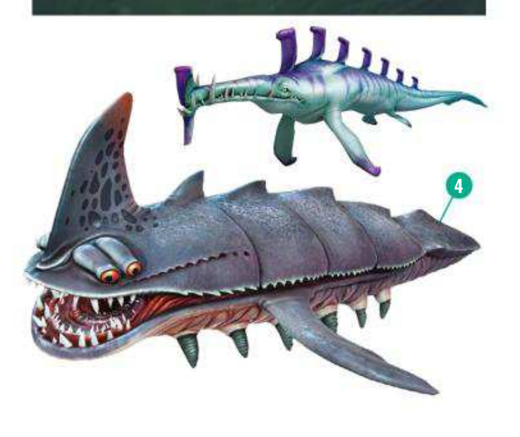
Did you ever worry that *Subnautica* was too hard to navigate?

Some people did ask for a map, and maybe in retrospect we should have added one, but my experience with adding maps to games like this is that if you don't make the world distinct enough, people bring up the map. And then, they end up just holding the map open while they're swimming around or whatever, and that's the worst thing, because you've spent all this time and money making a world, and they don't even look at the damn thing.

Were there many creative conflicts on-team?

One thing I really learned in this project is that arguing is not to be avoided. It's not a sign that things are wrong or bad, or that you have a problem. I realised that the argument between art and design and business and programming, that middle ground of the Venn diagram, that's where great games live. Once I realised that I felt less bad about the arguments, even though they completely exhaust me.







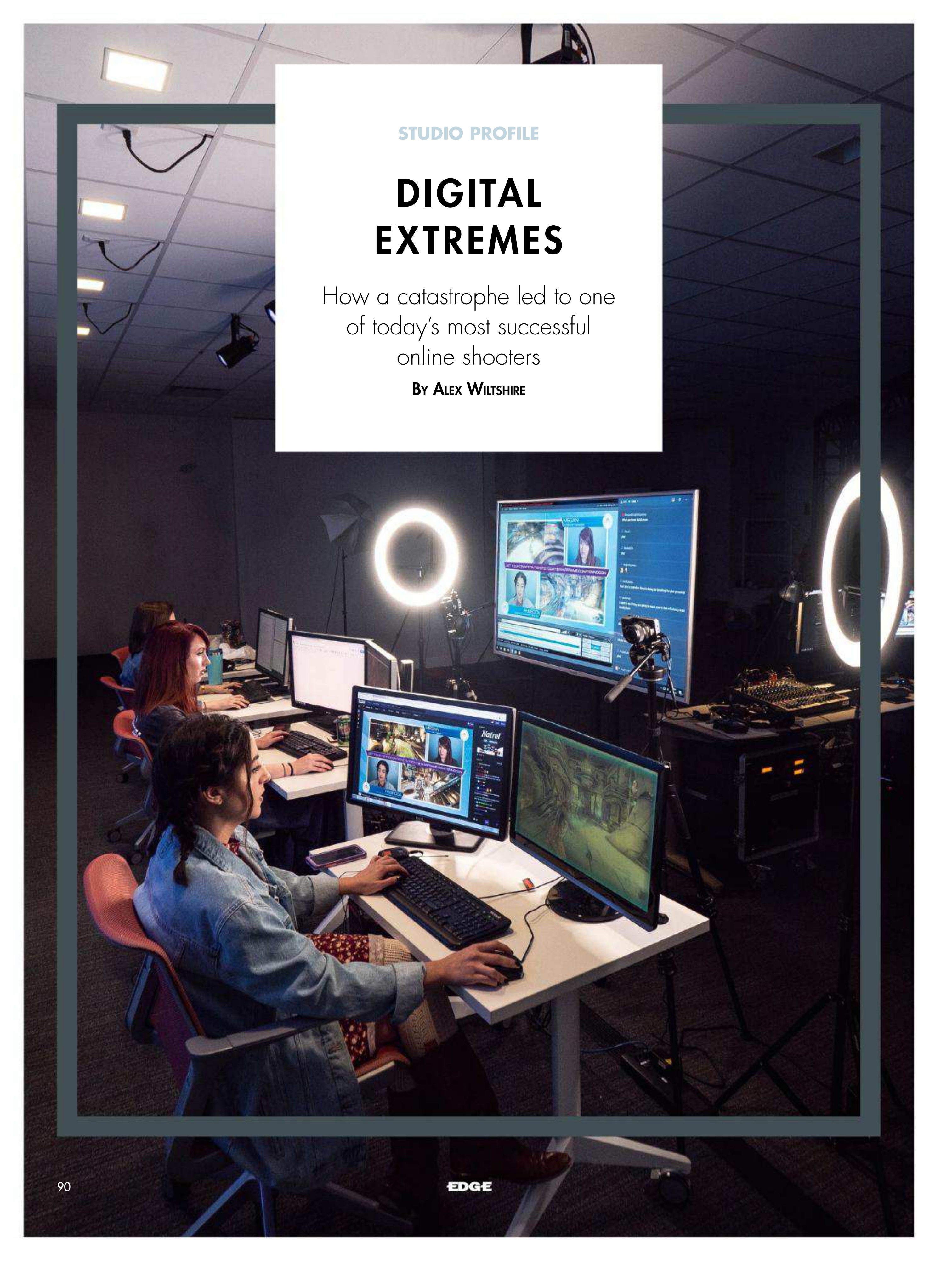






1 Smaller parasite fish aren't troublesome individually but can be difficult in numbers. Certain mid-game conundrums oblige you to complete an objective while fending them off.
2 Not far from your starting position you'll find a forest of creepvines, stretching hundreds of metres down. They impose a sickly green ambience while providing cover for coyote-like Stalkers.
3 Some species are gentle until riled. Wandering herds of Sea Treaders won't bother you unless you get too close – easy to do, when scavenging for shale deposits in their wake.
4 The Sandshark is notable for its ability to burrow, whether to ambush other swimmers or escape from them – watch out for the trails of debris it throws up.
5 Prey fish encompass a range of simple silhouettes, accented by bioluminescence. It's possible to hunt them at night, though certain predators are easier to miss.
6 *Subnautica*'s ecosystem has a history, tracked by the in-game encyclopedia. You'll find evidence of extinct lifeforms, many larger than those still active in the world.
7 Threats like the Boneshark can be distracted by light, or deterred using non-lethal defences like the Repulsion Cannon. When not chasing you, they'll hunt other fish.
8 *Subnautica*'s audio design is integral to navigation and survival. Each species has distinctive calls – if you hear muffled snaps and clicks, watch for swarms of Biters





STUDIO PROFILE

DIGITAL EXTREMES

How a catastrophe led to one of today's most successful online shooters

By Alex Wiltshire



Founded 1993
Employees 280
Key staff James Schmalz, CEO and founder; Steve Sinclair, creative director
URL www.digitalextremes.com
Selected softography *Epic Pinball*, *Unreal Tournament*, *Dark Sector*, *The Darkness II*
Current projects *Warframe*

James Schmalz has an infinitely better job than the one he had six years ago. Sure, his title hasn't changed – he was CEO of Digital Extremes back then, too – but he was head of a very different company. Digital Extremes had been a work-for-hire studio for many years, working from contract to contract, its fortunes determined by market realities and the whims of its clients. And that meant that Schmalz, who began his career as a programmer and designer, spent a lot of his time on the road pitching, and he hated it.

Today, Digital Extremes is the developer of sci-fi shooter *Warframe*, one of the most popular console and PC games around. In March, it celebrated having amassed 38 million registered users, with an average of 50,000 players playing on Steam at any time. Over five years *Warframe* has grown to be a huge success, the result of steady development which has built out the game from threadbare beginnings – its client was 750MB – into a full set of PvP and PvE game modes and activities. And Schmalz doesn't have to go out pitching any more.

It emerged from a crisis in 2012, the second massively stressful period which Schmalz has experienced since founding Digital Extremes 25 years ago. As the studio was wrapping up one work-for-hire project, he'd secured a new well-funded one and had started to ramp the studio into production on it. But just before it was fully greenlit, the partner pulled the project without warning. "We had 220 people at the time and we were in deep trouble. We had a couple of million dollars left and we were wondering what we could possibly do."

Saving the company, of course, was the first order of business. But escaping the work-for-hire cycle was also high on the minds of Schmalz and studio creative director **Steve Sinclair**. "When you're in work-for-hire you generally charge what it's going to cost you – salaries, overhead and bake in a little bit for a rainy day – and if you overrun, which we always did, you eat those reserves," Sinclair says. "After every game, even *The Darkness II*, which was critically successful for us, it didn't fund the studio for years to come so we could go off and make our dream anime MMO. You're always on the brink."

For several years, he and Schmalz had regular discussions about how they could break out of the cycle. They concepted a heist game and a space-set MMO, but without funding they never took off. So Schmalz still pitched for contracts, making 2013's *Star Trek* ("We all know how that one went," Sinclair says), while the studio collected 30 different Xbox Live Arcade game concepts, thinking that with a couple of million dollars they could make one and sell 300,000 copies, earning enough to extend the studio's cash reserves and help them break out of the cycle. Sinclair was especially inspired by Uber Entertainment's 2011 free-to-play MOBA-like multiplayer shooter *Super Monday Night Combat*.



Digital Extremes has a studio to broadcast and stream developer discussions and gameplay to its players

"EVEN THE DARKNESS II, WHICH WAS CRITICALLY SUCCESSFUL FOR US, DIDN'T FUND THE STUDIO FOR YEARS TO COME"

And then, with the game deal falling through, things got real. Sinclair's challenge was to take the free-to-play model he admired, look at what assets the studio already had, what it could build, and launch the result extremely fast. He pulled a small team together, gathered work developed for 2008's *Dark Sector*, which was originally planned to be multiplayer, a spinoff from *Unreal Tournament*, and from these pieces built *Warframe*, which was launched on PC via its own website in March 2013 as quickly as the studio could make it happen. "It was this huge hairpin turn for a small group, and then it became the rest of the studio, all born of trying to find some true independence," Sinclair says.

The shift from work-for-hire to rapid-release game-as-service production was a big one for Digital Extremes. But at the same time, this was never a studio with a singular, laser-guided vision. Digital Extremes has always been about change. Schmalz founded it off his first successful commercial game, *Epic Pinball*. Published by Epic MegaGames under the shareware model in 1993, it was a technical showcase for PC, yet Schmalz wasn't formally trained as a programmer. "I was alright at it, but it wasn't my forte. I was more interested in the design and art side of things," he says. Aiming to focus on the design, he hired a team to develop *Epic Pinball*'s success with packs of new tables and sequels.

The next big game was 1998's *Unreal*, which Digital Extremes and Epic MegaGames developed together using the funds earned by *Epic Pinball*. Schmalz worked with Tim Sweeney to initially build its engine before moving on to design, and so began Schmalz's first period of huge professional stress. *Unreal* took much longer to make than he and Epic anticipated, and the *Epic Pinball* money soon began to run out. "I was so freaked out, thinking I was the dumbest 24-year-old in the world. *Epic Pinball* earned me a million dollars and I'd just blown it all."

But *Unreal* worked out well. *Unreal Tournament* came out the following year, and Digital Extremes worked on the series until *Unreal Tournament 2004*. But Schmalz soon found himself sucked into the business side of development, which he hadn't really intended. "I didn't enjoy that at all, I liked the idea of the small studio, working on small games with a small team." The studio began to take contracts, starting with 2005 Xbox shooter *Pariah*. "The biggest mistake of my 25-year career would have been moving in the work-for-hire direction. We got to work on a few great projects, but it was always for someone else."

With a history like this, Digital Extremes' culture has evolved, rather than been steered by, its leaders' vision, and that's something that's turned out to be an asset as *Warframe* proved its potential. As the entire team pivoted to support ▶





LEFT **Senior sound designer Erich Preston brings Warframe's atmospheric audio to life.**
ABOVE **Steve Sinclair with lead artist Kary Black and senior world artist Ross Coglan**

Warframe's growth, it embraced the production realities of free-to-play. "Rapid updating is something that a lot of Western developers have a hard time wrapping their heads around," Schmalz says. "They're used to perfecting this amazing product for a specific launch, but we have 250 people working on a new launch every two or four months." *Warframe* is a constant project of improvement; the team knows it can't rival the visual punch of the highest-budget shooters, so they instead focus on satisfying players by adding more and more content.

"We get it to an acceptable level and then out it goes. Our lifeblood is change," Sinclair says. The art director had to accept that he couldn't take three concepts and progress with them all and then pick the best one any more. "The idea you have now has much greater return on investment than the idea you think you might have in six months, because if we're not keeping them constantly engaged, our audience will have churned out to play on other things."

Structurally, Digital Extremes has remained much the same, with a flat structure in which everyone is expected to implement new ideas. Programmers, designers, artists and sound designers take charge of their features, and it's Sinclair's role as creative director to prioritise them. "That leads to a certain amount of chaos," he says. "Which is to say a *high* amount of chaos. Even Gabe Newell says that there's a certain type of people who do really well at Valve. You might think you want a job with an enormous amount of creative freedom, but when you get it you might become a little unanchored. People crave direction; without it you can get problems and it's something we struggle with."

Ensuring that regular and functional updates materialise from this chaos is, for Sinclair, a matter of ensuring that the team comprises certain personality types. He wants people who tend to look for the heart of the update, thinking about the lore it's wrapped up in and what's interesting about it, and he wants detail-orientated people who think deeply about statistical aspects. But because the cycle is so fast, the consequences of a design often only become apparent once it's out and being played. "That means writing a lot of database scripts that say, 'Hey, sorry, we screwed up this resource or game mode.' We spend a lot of our time – I hate to call it damage control, but it really is an arm of community management about making sure we make it right."

He says it's embarrassing to have to fix live problems and re-do updates that didn't land, but he's also proud that Digital Extremes is comfortable with admitting it screws up now and then, such as with this spring's Beasts Of The Sanctuary update. "It just faceplanted," he says. "We pushed it out too soon. It's not roses when you're working fast."

The formula has worked, and *Warframe*'s playerbase has kept growing, and with it, so has Digital Extremes' ambition. In 2016 it kicked off TennoCon, which attracted over 1,000 players to the studio's hometown of London, Ontario. Two thousand attended last year's, and the studio hopes to double it again for this year's event in July. TennoCon was something of a watershed in which the marketing plan changed from a cautious one emblematic of the old Digital Extremes which required that every expenditure generated new players, to one which was allowed to simply benefit existing fans and not have to return a profit. What Schmalz didn't anticipate is that it also energised *Warframe*'s developers, who finally had a chance to meet their players. "It's giving back to the players, giving to charity, too. It's an emotional thing, not a financial one."

And that success has led to loss, too. *The Amazing Eternals* was an *Overwatch*-style character-driven team-based FPS that the studio put on indefinite pause in October, despite it progressing to a closed beta. Schmalz's own project, it was a backup game spurred by the constant fear that *Warframe* was peaking. But last year's major Plains Of Eidolon expansion, which added a large open-world area to the game, led to an influx of even more players. The only rational thing was to divert *Eternals*' production resources to *Warframe*.

"IF WE'RE NOT KEEPING THEM ENGAGED, OUR AUDIENCE WILL HAVE CHURNED OUT TO PLAY ON OTHER THINGS"

Schmalz won't be pressed on what's next, whether it's taking *Warframe* to mobile or if it'll remain a single-game studio for long. "After five years, some members of the team would say it's a long time to be on a project," he says. "I wouldn't say no, but we have to balance it with the growth of *Warframe*. It's hard on the business side to suggest something else, but on the personal side there are different ideas that percolate around." Digital Extremes still seems to lack a specific vision, but every year of its 25-year history has taught it adaptability, and that's at least as important. ■



❶ **Players are the Tenno, ancient warriors who fight in remotely controlled biomechanical suits with different capabilities, including the Valkyr, Nova, Excalibur and Rhino.** ❷ ***The Darkness II* (2012), a sequel to Starbreeze's 2007 demon-themed FPS**

PLAY

REVIEWS. PERSPECTIVES. INTERVIEWS. AND SOME NUMBERS

STILL PLAYING

Dark Souls Remastered PS4
Okay, it might not be the best remaster you'll ever play, but it's one of the best games of all time running on current console hardware at a near-unbroken 60fps, and that will do us nicely. Blighttown may have been given a much needed refresh, but our reflexes have gone the other way. After picking up our first ever curse from the basilisks in the Depths, we head off for a cure – then head back down and immediately get cursed again.

Street Fighter 30th Anniversary Collection Switch
This Capcom compendium is an awkward thing, lavish in places and phoned-in in others – the 12 games on offer are mere ROM dumps. But this is, despite the cut corners, an essential collection charting the history of the greatest fighting game of them all. One grumble, though: the difficulty-select option is far too well hidden, and we lost an evening to *Third Strike* boss Gill before someone alerted us to it. It didn't quite scar our DNA, but it came close.

Grow Home PC
Our enlightening chat with Reflections for last month's The Making Of reminded us to return to its 2015 experiment, and we're immediately struck by how much the two games have in common. In both you must master awkward terrain with a character that shares a toddler's ungainliness. If at first Bud's limbs can't quite keep up with his brain, it's not long before we're back in the groove, scaling the heights with glee.



Explore the iPad edition of **Edge** for extra Play content

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PC, PS4, Switch, Xbox One

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PC, Switch

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PC, Switch

114 Quarantine Circular
PC

116 Laser League
PC, PS4

Let the right one in

Problems with a videogame's launch always make for good copy – but servers get fixed and kinks ironed out, meaning most are swiftly forgotten. Yet the story of the early days of *The Division* will linger long in the memory. Player characters in Ubisoft's online shooter-RPG had solid bodies, and some wag figured out that you could stand in an early doorway and prevent anyone else from starting the game. We celebrate games for the way they let us escape the mundanity of real life – yet even in the wildest videogame fantasies, there will always be doors, and they will often be a problem.

This month's Play crop yields fine proof of that. *Destiny 2: Warmind* is the latest incarnation of a game which is infamous for how often you must fend off enemies while your AI pal hacks open a lock. There's a little less of it these days, admittedly – and in one instance this time out, the game replaces a hackable door with a hackable neural node (a sci-fi door, we think). But Bungie's fooling no one. *Destiny*'s legacy is assured.



It is in such mundane aspects of a game's world that its true nature is often exposed. David Cage's ambition to seamlessly entwine the languages of games and cinema means that *Detroit: Become Human*, like his previous work, layers mechanical contrivances over its characters' every action. So, yes, you will have to twiddle the right analogue stick in various ways if you want to open its doors.

Then there's the aptly named *State Of Decay 2*. Undead Labs' zombie-and-bug-infested game commits the same crime as *The Division*, but instead of a mischievous griefer putting the controller down and walking off, here it's a roll call of abysmally coded AI companions blocking your progress. After that there's only one place for it. A dustbin lid, we suppose, is in its own way a kind of door.

Detroit: Become Human

A common complaint about any game with a branching narrative is that the decisions you take as a player invariably mean little in the grand scheme of things; that all choices eventually converge at the same point. To which most storytellers would respond by insisting that it's about the journey, not the destination. *Detroit: Become Human*, however, offers a pointed rejoinder to accusations of smoke and mirrors whenever you pause the game. Here, you'll find an extensive flowchart, highlighting a remarkably divergent array of possible routes, spidering out from the point of narrative entry. Some of these do, admittedly, end up in the same place, but certain key choices carry over to future chapters, shaping character relationships, opening up crucial dialogue options or even introducing potential ways out of dangerous situations. There are, to Quantic Dream's credit, plenty of avenues to explore, and endings to see. Whether you'll want to, however, is another matter.

Detroit's narrative triptych begins in 2038, the two intervening decades having witnessed the rise of androids and their uneasy integration into society, with manufacturer Cyberlife having become the planet's most powerful corporation. In a dramatic opening scene, we're introduced to Connor, an advanced model of android tasked with tracking down rogue machines – or 'deviants', in the game's parlance. Later, control passes to Kara, live-in nanny to a young, quiet girl and her angry, drug-abusing father. And between the two there's Markus, carer for an ageing painter, who treats his robot assistant with rather more affection than the game's other human characters.

The notion of machines as an oppressed minority has been explored in sci-fi many times before, albeit often as subtext. Here, however, it is aggressively foregrounded. As a writer, David Cage has never exactly been a model of subtlety, but here he wields allegory with a similar grace and lightness of touch to which Leatherface uses power tools. In *Detroit*'s second chapter, Markus – significantly, a non-white android – is pushed to the ground and kicked as he collects a set of paints from a local store, shortly after an extended shot of him standing alongside his kind within a segregated compartment at the back of a bus. The chapter title, just in case you hadn't quite grasped the point Cage is trying to make, is Shades Of Colour.

Warming to his theme, Cage continues to wade in with both feet as Markus learns to fight back, such that we began to wonder if he didn't consider an alternative title: *David Cage's Android Lives Matter*. An attempt at a rousing civil-rights march is clumsily staged – a literal wave of the hand glosses over a major plot contrivance – while one look-away-now moment directly invokes Martin Luther King, repurposing the activist's most famous mantra as a graffiti slogan. Far be it for us to

Developer Quantic Dream
Publisher SIE
Format PS4
Release Out now

The writer wields allegory with a similar grace and lightness of touch to which Leatherface uses power tools



suggest that a developer shouldn't approach provocative subject matter, but on this evidence perhaps Quantic Dream isn't quite the studio to do it justice.

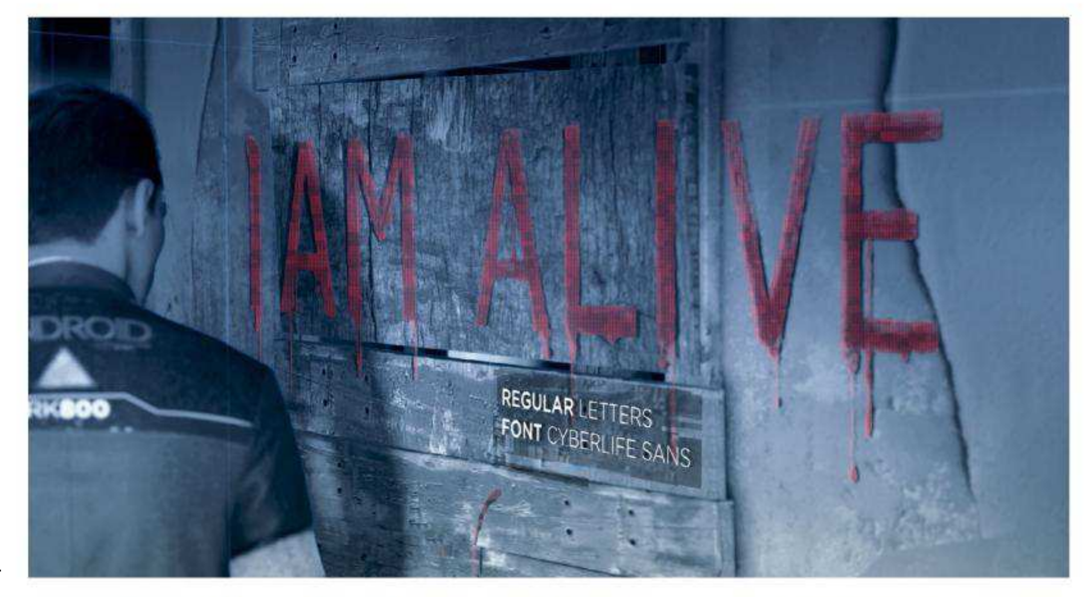
The two other stories fare rather better, though Kara's escape from an abusive owner, demoed at last year's Paris Games Week, has already provoked its own line of angry op-eds. Still, once she's away she proves the most sympathetic of the central trio, developing something akin to a mother's love for her young charge, Alice. An early episode which charges her with finding a place to stay the night is charged with a prickly tension. A motel looks the most inviting option, but she'll need to find money first. An abandoned house is far less appealing to Alice, yet unlikely to attract unwanted attention. They'll need a change of clothes, too, but the child is sure to take a dim view of stealing from a sleeping laundromat customer, in all probability weakening their bond. It's during these moments, where you're presented with several choices, each representing some kind of compromise, that *Detroit* really hits its stride. Likewise, whenever a nearby threat forces you to think on your feet: one scene that requires you to hide evidence without arousing the suspicion of a prowling police officer is a bona fide nail-biter.

The third strand is a more conventional detective story, enlivened by the augmented abilities of its lead. During a rooftop chase, for example, Connor can scan his environment for potential routes, allowing you to choose between fast-but-risky and slow-but-safe on the fly. An investigation set in an android sex club invites him to hack into each pleasure-bot's recent visual memories, allowing him to track the movement of a suspect before the trace goes cold. For reasons that aren't convincingly explained, Connor teams up with Hank, a man who has anti-android slogans on his desktop, who frequently expresses his distaste at having an android partner, and whose entire character arc can be guessed with reasonable accuracy within seconds of meeting him drowning his sorrows at a bar. Still, their odd-couple dynamic does at least introduce a few notes of dry humour in an otherwise doggedly bleak story.

Connor's investigatory role chimes best with the narrative's structure, too, at least in the sense that you're more overtly rewarded for thoroughness. While analysing crime scenes, he can taste 'blue blood' to divine an android's model, and recreate the sequence of events leading up to a murder from the evidence he finds. Either from this, or simply by studying the local environment carefully, finding more clues and details opens up fresh lines of enquiry – whether a discovery leads you to locating a suspect in the same chapter, or unlocks a critical conversation path later on.

You're alerted whenever this happens, with the UI displaying a padlock sliding open; as an early tutorial ▶

RIGHT Hey, at least it's not Comic Sans. Connor's ability to analyse every interactive object does throw up some delightful incidental details, some of which even prompt conversation options: he can, for example, even warn Hank about the calorific value of the donuts on his desk.
BELOW Even if Markus dies, the android rebellion continues, via non-interactive cutscenes. Having chosen to peacefully protest as Markus, we were a little perturbed that the new rebel leader opted for a gung-ho approach that undid all our good work.
MAIN There are two difficulty settings available from the outset, one of which makes the QTE action sequences simpler and ensures you're less likely to lose a character







ABOVE This is some of the finest performance capture we've seen to date, and if there's a slight uncanniness to it, then it certainly fits the android characters. The quality of the performances helps that too, of course



makes clear, this is usually beneficial. Yet from a story perspective it's a double-edged sword, serving to clearly foreshadow later events. It might help if Cage wasn't such a firm believer in Chekhov's gun: there are no obvious red herrings here, and thus few real surprises. In fact, the game's main twist – disappointingly, it's one that significantly weakens one of the storylines – is so heavily telegraphed it's almost a shock when Cage follows through with it.

The controls – a regular Quantic Dream sticking point – are also bothersome. Cage's fondness for mimicking actions with the right stick means that sometimes you'll try to open a door and only end up shifting the camera across and down because you weren't quite standing in the precise spot. The usual Simon Says action sequences are compromised by choppy editing and an excessively shaky camera that only really allows you to focus on the prompts, ensuring you never really see what's going on. Commands are inconsistent elsewhere, too: sometimes you'll climb by pushing the right stick up, sometimes by jerking the controller upwards, and for anything involving motion it's touch-and-go whether you'll get a response. More irritatingly, dialogue options can sometimes present you with a single word or short phrase, without making it clear what that might mean. One ally takes offence when we ask her a question ostensibly about her wellbeing. During a later sequence, meanwhile, we're given a choice – accept or refuse – after two characters have spoken, without knowing whose proposal we're supposed to be welcoming or turning down. In a game that makes a point of ensuring your actions have lasting consequences, this lack of clarity and consistency is all the more frustrating.



FEAR AUTOMATA

You're frequently made aware of the fluctuations in public opinion about androids, which shifts as a direct result of your actions. Oddly, it seems you can negatively affect this by simply turning on the TV and witnessing a news item – as if the act itself wouldn't have mattered had we not seen it reported – though it's Markus whose activities have a more tangible, lasting impact. As the android uprising foments, you can choose to adopt a more violent or pacifist approach; regardless, the media reports your activities as terrorist attacks. As such, it's jarring when public opinion is shown to be positive – particularly since almost every other line of incidental NPC dialogue suggests a pervasive prejudice against the machines.

Markus's story peaks early, as he effectively comes back from the dead. It's one of *Detroit*'s most striking sequences, establishing his indomitable spirit – and yet as a leader he's an oddly uncharismatic figure

For all these irritating shortcomings, and the glaring plot holes besides, there is still much to admire about *Detroit*. Its setting is superbly realised, establishing a convincingly dystopian vision of a future where high tech and low income collide. Clancy Brown as Hank might deliver the standout performance, but the three leads all acquit themselves well, selling the shift from obedient servant to sentient almost-human with the help of some outstanding capture work. There are several individual moments you won't soon forget, besides. A desperate escape from an android graveyard conjures a truly hellish vision of walking half-corpses, with muffled sounds and tinnitus whines (the result of a broken audio receiver) making it more unsettling still. A sequence in an abandoned fairground is a quietly moving triumph of visual storytelling. And the final chapters, where the three paths invariably collide, lay bare the extent to which your choices matter, the long strands of empty, untold story making a replay all the more tempting – even as the presence of checkpoints slightly undercuts the permanence of your actions.

Yet though the sheer number of variables gives *Detroit* plenty of conversational cachet outside the game – a valuable facet of interactive storytelling in itself – it feels more like a series of memorable moments (and not always for the right reasons) than a satisfying whole while you're playing. For all the very human flaws in its script, it ends up somewhere in the uncanny valley of narrative games: it looks the part, but behind that glistening exterior, something vital is undeniably missing.

5

Post Script

How Detroit's most notorious scene highlights the best and worst of Cage's storytelling

Having done the rounds at preview events, *Detroit*'s Stormy Night sequence has already attracted plenty of critical attention. Its depiction of domestic violence is hardly the first we've seen in a videogame, but the disquieting notion that there could be a 'right' way to escape abuse understandably came under close scrutiny. Though the judgement perhaps seemed a little premature given that we didn't have the context of the full story, the finished game hardly ameliorates the issue: indeed, the unspoken suggestion that each scenario is essentially a puzzle of sorts with several potential 'solutions' is made more explicit by those narrative flowcharts.

In fact, the entire sequence summarises the strengths *and* weaknesses of Quantic Dream's most ambitious game to date, somehow contriving to be a dramatic peak and one of its most troubling scenes all at once. It is David Cage in excelsis, magnifying not only his sometimes laudable creative ambition but also his most worrying peccadilloes.

You could intercut Kara's early scenes with shots from Ethan Mars' home in *Heavy Rain*, and beyond the superior textures and the presence of an android au pair it would be hard to notice the joins. Her arrival back at the home of Todd and his daughter Alice is seen in a previous chapter, where ominous clouds serve as a melodramatic harbinger of bad times. Already we're aware that Todd broke his previous Kara unit in a fit of rage, while Alice's withdrawn personality is revealed as she sits silently in the background as Kara follows Todd's orders to tidy up the place. Rudimentary inputs give us some involvement in tidying up, while we remotely interface with a Roomba-like vacuum cleaner. It's simple stuff, but it works, establishing an uneasy but relatively benign atmosphere – at least until Kara finds a baggie of drugs. Todd appears almost instantly, gripping her around the throat and threatening her, before we're given the relief of returning to Markus and Connor's stories ahead of the second, pivotal scene where a storm arrives in every sense.

One meltdown later, Todd is prowling around, threatening to come upstairs and teach his daughter a lesson. As Kara dutifully awaiting her next orders, Todd warns her not to move – "or I'll bust you worse than last time." At which point, a single twitch of the analogue stick is enough for the android to commit to deviancy. There's a close-up of Kara's face, her eyes wide in shock at the revelation that she may not have to obey – though first she must break through the barrier of her programming. It's represented as a tangible obstruction, a wireframe wall that requires some physical exertion on the player's part to smash through. Then she stares at her hands, seemingly awestruck. It may echo an earlier scene involving Markus, but the sense of injustice – and the presence of an imminent threat – makes this moment a scalp-prickling delight, the desires of player and protagonist in total alignment.

The entire sequence is charged with a tension you don't often find in games



Then comes the not-insignificant matter of achieving your objective: protect Alice. Consult the flowchart, and you'll note that almost every other choice seems to splinter into two, then four, then eight. Several of these end up at similar points, but there are over 60 boxes on Stormy Night's flowchart, and you'll miss most of them on a single playthrough. If you reach Alice before Todd, you can lock her door and escape through the window as he breaks in. If you found a gun in the previous chapter, you can threaten him with it. You can attempt to reason with Todd (bad idea) or hide in another room before bolting for the front door or the garden. The game has already established the stakes, and so the entire sequence is charged with a tension you don't often find in games where failure simply means restarting from the last checkpoint.

It is, in many respects, an effectively nasty piece of drama: dark, intense and truly nerve-wracking. And one optional branch prompts one of the game's best exchanges. Brandishing a tall lamp, Kara stands in front of Alice, breathing heavily. "I won't let you hurt her," she says with a surge of newfound defiance. "You won't *let* me?" sneers Todd, his tone at once mocking yet faintly incredulous.

It's one of few moments where Cage's script says just enough, a rare exception in a game that prefers to (over)tell rather than show. Todd's constant muttering to himself can be attributed to his drug use, but it regularly seems as though it's exposition he's been snorting. As if Todd's reminder to Kara of prior abuse – a fact we learn in the first scene – wasn't enough, Alice warns her to "run, or he's going to break you like last time". Then again, perhaps that's preferable to the alternative: having connected with Alice in an earlier scene, we unlock her music box to find three sequential crayon drawings depicting Todd smashing Kara to pieces – one of the most unintentionally funny attempts at environmental storytelling we've ever seen.

More worrying is that Todd is the latest in an increasing line of Cage's grubby, angry men who like to abuse young, attractive women and/or children – and even if you kill him, there's an ill-advised survival-horror episode to come involving another. Villains and the violence they perpetrate – and how we as players experience that violence – is something with which the medium's storytellers will have to wrestle in future. For now, Cage and Quantic Dream will surely have some uncomfortable questions to consider. ■

State Of Decay 2

Rarely has a game's title so accurately described the condition in which it launches. From a technical standpoint, *State Of Decay 2* is a shambling mess of a survival game that constantly trips over its own feet. Much like its predecessor, these shortcomings undercut its strongest ideas, the upgrade to fresh hardware having had little discernible effect. It remains as ugly to behold as it is clumsy to play, and even the arrival of a hefty patch halfway through the review process does little to dispel our thoughts that this might be the most rickety, rough-edged game published by a major format holder in living memory.

Surely to goodness, it should not be this difficult to close a door behind us. Yet a simple interaction such as this becomes a bizarrely awkward challenge in *State Of Decay 2*. In a world overrun with zombies, it makes sense not to leave the gates of your community ajar. But on an early outing, our protagonist Dakota (one of several potential leads from whom you can choose at the outset) inexplicably glides behind the gate, forcing us to open it again. Next, we inadvertently trigger a conversation with our scavenging partner McCoy, who's standing in close proximity: the result of the Y button being used for a wide range of context-sensitive interactions. Third time lucky? Not quite: now McCoy is stubbornly blocking our way. We talk to him once more, opting to switch characters to hasten our exit. For some reason, that means abandoning Dakota's current story mission, even though we're still heading out as a pair. Then, upon our return, a sluggish menu – one of a litany of bugs and hitches – causes us to accidentally exile a kindly newcomer.

You might think crucial decisions like the latter would require some kind of confirmation. Then again, *State Of Decay 2* demands you accept that the consequences of your actions are permanent, the game autosaving frequently so there's no going back. As with the first game, this is its biggest asset, not only giving you a rare degree of authorship over the narrative journey of your enclave, but setting the stakes unusually high: characters who die stay dead, with control passing to the next group member. On a lower level, your choices affect your relationship with others. Repeatedly ignoring pleas for help from neighbouring factions, for example, may see them turn hostile.

Here, however, it's more likely they'll simply sulk off somewhere else. And given how regularly your radio buzzes with requests you may feel that's a blessing in disguise. Especially since you need to spend most of your time looking after your own. In theory, you want enough survivors to cover for the injured and fatigued, but let your community grow too quickly and you'll have too many mouths to feed. Occasionally, characters will forage of their own accord, but you'll need to do the bulk of the fetching and carrying yourself.

Developer Undead Labs
Publisher Microsoft Game Studios
Format Xbox One
Release Out now

Surely to goodness, it should not be this difficult to close a door behind us



Bringing along an AI partner is all but mandatory, not only since you're effectively doubling the supplies you can ferry back, but because they'll muck in during undead ambushes. In truth, as long as you've got a spare melee weapon prepared for the moment your current one breaks, you'll have little trouble with even a moderately-sized swarm. Your partner can hold their own with nothing more than a knife, and while regular zombies can take several hits before dropping, the odd pause between swings should see you get through encounters without exhausting your stamina gauge. Plague hearts – pulsing, malignant masses that infect nearby hordes – are destroyed with relative ease, assuming you've scavenged a few grenades or crafted a handful of Molotovs. Even the vicious, darting feral zombies that attack with swift, lunging swipes are more likely to cause minor injury than death.

As such, your biggest concern is being temporarily inconvenienced. You will, at some point, get wounded – whether by a carelessly thrown grenade, or failing to spot a bloated cadaver that poisons you with toxic gas as it bursts – enforcing a short stay at your base's infirmary. Which inevitably means another trip out for yet another rucksack of meds. While you're away, random accidents will occur, depleting your already meagre reserves. Yet after a short while, selling a pack of tampons (a luxury in this world), a set of books and several doses of plague cure earns us enough influence with a friendly bunch up the road that we can put out a radio call for hints on where to search for whatever we're currently lacking.

It's more laborious than challenging; less a desperate fight for survival so much as an interminably paced struggle to maintain a fairly miserable status quo, even once you've begun to make your base feel more like a home. Voice acting that ranges from adequate to atrocious hardly helps with the thin characterisation, and though personality traits go into some impressively granular detail, in practice these amount to nothing more than a set of numbers you have to balance for the sake of group morale. Someone will be concerned about the lack of ammo, someone else will bemoan the number of nearby infestations, while specific habits will annoy irritable characters, leading to internecine squabbles.

Roping in a co-op partner or three accelerates your progress somewhat, if only because you can multitask – indeed, you begin to wonder if the balance has been deliberately tilted to tempt solo players to head online rather than toiling alone. Either way, beyond the odd jolt of panic as your wrench breaks mid-fight, or when the piercing shriek of a spindly screamer attracts a ravening pack, there's little here to quicken the pulse. For a zombie game, that might be the most damning criticism of all.

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ABOVE The beams from torches are deliberately weak, and so supply runs after dark will have you squinting at the screen. It means more zombies can catch you unawares, but it makes the game even more visually dull

MAIN An extra pair of hands will make raids a doddle. Even when it looks like an AI-controlled ally is surrounded, they always seem to find a way out of trouble.
ABOVE There's no way to easily swap items between two characters without dropping them first. Bring a car and you can stuff more in the boot to bring back, but then you'll need a spare petrol can – you'll barely hit a kilometre without having to refuel.
RIGHT You can finish off grounded zombies by holding the trigger and the attack button, but the animation takes so long you're as well to just keep mashing away





There are three locations from which you can start your journey, but regardless of your choice you won't stay in your first base for too long

Post Script

Why State Of Decay 2's flaws are a big problem for Microsoft

Your radio quickly becomes one of your most valuable assets in *State Of Decay 2*, letting you call for assistance in a variety of ways, whether it's asking an online volunteer for help managing your community or the AI to find scavenging spots or potential recruits. But the last option is the most telling: "If your character is stuck and can't move around, this backtracks you a bit to escape that spot. (Doesn't work while in a vehicle.)" The option – and the caveat, for that matter – says everything about *State Of Decay 2*. The fact that it's there at all is something of a mea culpa, though in practice it's a rather considerate touch. Given the regular autosaves, getting caught on scenery is a potential game-ruining issue; being able to escape such a glitch is an undoubted boon.

Others, however, are much harder to avoid. During long drives, we repeatedly see zombies dangling in the sky, suspended as if on an invisible fishing line before falling into position. A character's morale drops so calamitously while ransacking a house that she spends the trek home repeatedly interrupting herself, her two lines of dialogue becoming a surreal mantra. While fighting a zombie on the steps leading to an empty house, we're inexplicably sent hurtling across the garden before colliding with a concrete wall some 20 feet away. Your torch will sometimes clip beneath your clothes, causing its beam to cast strange, jagged shadows against interior walls. And when you're pottering about your settlement, the portentous score periodically cuts out, like it's being played on a scratchy gramophone.

Up to a point, bugs like these are considered par for the course with modern open-world games, a natural side-effect of more expansive, detailed settings and an ever-increasing number of moving parts. It seems as if players are reasonably tolerant of them, too; indeed, if terms like Game Preview and Early Access feel like euphemisms, designed to convince players that the opportunity to experience unfinished games is a rare privilege, that certainly hasn't done any harm to the likes of *Playerunknown's Battlegrounds* or *Fortnite*. These days, you can release a game in a far-from-ideal state and still achieve phenomenal success.

Yet if there's a growing acceptance that games don't need to be perfect at launch, *State Of Decay 2*'s problems are harder to excuse given Microsoft's involvement. One can sympathise with Undead Labs to a degree – this is clearly a relatively small team – although given the first game had similar issues, our sympathy has its limits. Still, a 6GB patch that arrived while we were playing the game for review at least suggests a willingness to fix things, even if other technical snafus were still glaringly apparent afterwards.

But as a platform holder, Microsoft surely has a far greater duty of care. With this and the similarly shaky console version of *PUBG*, it's setting an uncomfortable precedent, asking players to pay for games that are clearly some way off being ready. Indeed, an identical mid-range RRP suggests the publisher is well aware that it couldn't possibly ask full price for either game.

Quite apart from that, having sold us what it proudly boasted was the world's most powerful console, should it not be pushing production values as far as possible? Though its support of independent developers is in some respects laudable, the fact that Microsoft is publishing games in this kind of condition represents a worrying trend for Xbox owners. As a platform holder with little to throw its weight behind, it appears content to put its name to the kind of games that could use a little care and attention. And yet there's little evidence of Microsoft having used its influence – much less Xbox One X's considerable technical grunt – in any meaningful way. Put it this way: it's hard to imagine this passing muster on Sony's watch. ■

Destiny 2: Warmind

Officially, Crimson does not exist; one of its perks is called Banned Weapon. An exotic hand cannon which regenerates health with every kill and automatically reloads itself off headshots, Crimson is exactly what a *Destiny* exotic should be: a borderline broken weapon that feeds off and into the game's wizard-soldier power fantasy. Yet it wasn't always this way. When introduced in *Destiny 2*'s first expansion, the miserable Curse Of Osiris, it was certainly powerful in theory, but chewed through ammo reserves at such a rate as to be unviable in practice.

Now, as part of a sweeping overhaul of *Destiny 2*'s exotic arsenal, released alongside this, its second expansion, Crimson is what it should have been from the start. That, it turns out, applies to Warmind, and *Destiny 2*, as a whole. Stop us if you've heard this before, but Bungie's troubled sequel is finally, slowly, becoming the game we thought it was always going to be.

Warmind itself has little to do with it, admittedly – no wonder, since Vicarious Visions, the assist studio which has taken the lead on this expansion, had surely settled on its theme and structure long before Bungie's *Destiny 2* fell so rapidly, and publicly, apart. Its campaign component is, like Curse Of Osiris before it, a whisper of a thing that takes a major player in *Destiny* lore – in this case Rasputin, a mysterious, powerful AI weapon – and uses it as the pretext for a couple of hours of forgettable story content that is then used and re-used later on. Warmind continues the trend, started by Curse Of Osiris, of repurposing campaign content as Strike missions, which we assume is meant to provide value but instead exposes the lack of it as you face off against the final boss for the third time in a week.

Other additions are soured by Bungie's bid to slow down progression in order to make its endgame more meaningful. The new Escalation Protocol activity is a seven-wave horde mode of punishing difficulty: the first batch of enemies have a power rating of 370, far beyond the soft cap of 345 at which most players will hit their first progression wall. By the seventh wave, opponents are at the power cap of level 385 (a patch having lowered them from an unattainable 400). The one way to overcome the power deficit is by pure weight of numbers, but as an open-world activity, the only way to get more than three people in at once is by fiddling the system, lone players endlessly loading into instances until they find an ally, and then other players joining them through the menus. Eventually, once the wider playerbase has geared up, Escalation Protocol will be a three-person activity. No doubt some wag will solo it. But at launch, a major part of the value proposition is so difficult as to be virtually inaccessible.

The same applies to Spire Of Stars, the new 'raid lair' – Bungie terminology for *Destiny 2*'s new approach to its pinnacle endgame activity. By sharing a setting, and therefore an asset pipeline, with the base game's raid, lairs let Bungie make endgame content at a more efficient clip than in the past. With a lofty power-level requirement, it's as tough a raid as we've seen in *Destiny*, at least at launch. It's a test of brains as well as brawn, of course, though there's a creeping sense that Bungie is beginning to reach the limits of an FPS raid's design. At first we used special relics as weapons. Later, we had to carry them from place to place. Here we must pass them between team-members, then carry them from place to place, before eventually using them as weapons. There's still nothing like a good *Destiny* raid, but it's perhaps time for something else.

Developer Bungie
Publisher Activision
Format PC, PS4 (tested), Xbox One
Release Out now

There's still nothing like a good Destiny raid, but it's perhaps time for something else



IRON LADDER

The major addition to Crucible PvP is a ranking system, with separate ladders to climb in Quickplay and Competitive. The former's Valor stat rises naturally through play, with consecutive wins building a streak multiplier. The latter's Glory rank is more closely tied to performance: go on a losing streak – which is all too easy for those who queue solo – and your rank will simply plummet. If that's not enough of a deterrent, Competitive is now also played without a radar, a core part of Crucible design suddenly ripped from the game with miserable results. Equally unpleasant is the return of 6v6 matchplay in the monthly Iron Banner; if you thought *Destiny 2*'s teamshot-heavy style was bad in 4v4, you ain't seen nothing yet. If the clump of three opponents doesn't beat you, the two working your flank surely will.

That's Warmind, and it's just okay. What rescues this package, and sees *Destiny 2* in its best shape yet, is the stuff around it; things that, Bungie being Bungie, are held back and bundled up together, instead of being released piecemeal as they become ready. Crimson's update is wonderful, yes, but it was clearly needed months ago, and in an era where quick fixes to obvious problems are expected by players, it chafes a little to suspect that Bungie has sat on them in order to make a paid expansion more desirable.

Yet in truth, *Destiny 2* needed more than a trickle of good news. It required a flood, and Warmind gives something close to that. Crimson is as brilliant a gun as *Destiny* has ever produced, up there with Fatebringer and Gjallarhorn. And it is not alone. With only a few exceptions, exotic weapons now feel worthy of the name, and returning players have a delightful few hours ahead of them, digging long-forgotten toys out of their inventory and marvelling at what they're now capable of.

Many have been further improved by Bungie's extension of the Masterwork system to exotic weapons. In a twist on the regular legendary Masterworks, exotic upgrades require a lengthy grind to complete, and this finally gives *Destiny 2* a rhythm beyond its weekly Milestone rituals. Now, once you've completed your to-do list of public events, Strikes, raids and so on, you can head out and do whatever, farming kills in the name of making your favourite guns even better.

The game's deepest problems persist: the loot pool, outside of a handful of legendaries and that lusciously tweaked exotic arsenal, is unexciting, and still too small. Armour lacks value beyond the aesthetic, which remains undermined by a lack of diversity. The weapon system, retooled to so much fanfare in the transition to *Destiny 2*, still makes too many encounters feel flat, and continues to adversely impact the flow of Crucible matches. It is by no means perfect. But *Destiny* never will be. After three-and-a-half years of this stuff all we can hope is that it gets a little better each time. Much remains to be done, certainly, but after a dire six months *Destiny* is, at last, back on track.

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RIGHT A nerf to exotic drop rates means grinding public events isn't quite so lucrative anymore, though you'll still need your farming skills to complete a weekly Milestone. **MAIN** The Valkyrie is a javelin-like weapon with constantly depleting ammo that encounters have been designed around. If you see one, you're going to want to pick it up. **BOTTOM** Ana Bray (centre) is the latest addition to the story, though her role quickly devolves into just another person to trade with. Your Guardian, meanwhile, remains as disappointingly mute as ever









ABOVE The Hive are the focal point, so you can expect an Ogre to turn up and ruin your day every few minutes. Three-and-a-half years into the project, *Destiny* is in desperate need of a new enemy faction to fight

Onrush

Within moments of starting *Onrush*'s story mode, we have our mission statement. As an opening voiceover explains, this is an idea that came to be "when rules started grinding motorsport down". In other words, forget what you know about a genre that seemed to be dying on the vine. This team of car nuts – Codemasters' vehicular expertise paired with the off-road knowhow of Evolution Studios – is clearly in the mood to shake up the arcade racer. Though can you even call it a racing game when there's no finish line? In reality, *Onrush* is more like a high-end destruction derby, with strong hints of *Burnout* throughout, and even a faint whiff of Techland's boost-happy *Nail'd*.

For a while, it's pleasantly confounding. It's a very literal kind of shake-up, in fact, as you find yourself jostling and being jostled alongside 11 other racers, split into two teams of six. These springy off-road vehicles range from chunky, heavy trucks to nippy but flimsy bikes, and you don't so much drive them as throw them around. You'll barrel through forests, across dams, into canyons, over dunes and even careen around a golf course, each forming a loose circuit of sorts, which widens and narrows throughout. When it opens out, you've got more of a run up to take down a rival vehicle; when the action is bottlenecked, a gentle nudge can be enough to send you hurtling into a wall.

Outside one game type which forces you to switch vehicles when your current ride is destroyed, smashing up rivals isn't your real objective so much as a means to an end. A numerical advantage helps whether you're trying to earn points by chaining boosts, racing through gates, or controlling a moving zone as a team. But for the most part you'll want to find ways to max out your boost to pull off your vehicle's rush ability. This speeds the already hectic action up further, as you zip forward, usually aiming to hit the front. One vehicle drops blockades that slow opponents when hit, while another temporarily blinds any adversary immediately behind them. Others can energise adjacent allies to top up their boost, or drain the meters of their fellow challengers.

None of this would work if the racers weren't in a fairly tight cluster. As such, Codemasters employs a few tricks to keep everyone together. Fodder racers spawn in regularly, offering little resistance to bumps and shunts, and thus building your boost meter: in essence, they help you get to the good stuff quicker. If they aren't enough, there's some light rubberbanding that allows back markers to keep pace with the others, and if you fall too far behind, you're given a brief warning before you're picked up, the camera snaking after the pack until you're deposited back into the melee.

The result is a more egalitarian kind of driving game, one where less capable players can still feel involved in the rough-and-tumble of the action, even if they're earning fewer points than their teammates. In that sense, this unlikely experiment works. But there are significant downsides. There's little sense of triumph in the way a victor is declared, for starters. In a speedy game like this, you'll often be too focused on avoiding trouble (or causing it) to keep an eye on the two gauges at the top of the screen, steadily closing in on the decisive central line. And there's something wholly unsatisfying about winning an event – having also earned the title of MVP in the post-match results – while waiting to respawn.

The simple answer is to avoid crashing altogether. In a crowd of vehicles, hazards and colourful effects as busy and dense as this, that's far easier said than done. Avoiding harm seems to be as much down to good fortune as your skill behind the wheel: incoming attacks can come from nowhere, with even the more distant chase-cam giving you precious little notice when you're in imminent danger. Inconsistencies in collisions don't help. Sometimes you'll smash into the side of a rock at full tilt and be able to drive away. Then you'll brush a front wheel against the edge of a barrier and your 4x4's an instant write-off.

There's no guarantee you'll be placed back in a convenient position when you respawn, either. On one occasion we were dropped a few feet before a ramp, with no time to build up sufficient speed to clear the bridge immediately ahead. Cue another respawn, this time with a slightly longer wait. And while there will always be something inherently gratifying about watching a successful demolition job in slow motion, it's perhaps not the wisest choice to have the camera turn towards the victim while your vehicle continues on. Especially when it swings lazily back into position to reveal a large boulder you've no longer got time to swerve.

Inevitably it works better online, though with AI racers filling any gaps, you're still reliant on your teammates shaping up. Win or lose, your actions rarely seem to have a truly decisive impact, outside the odd eleventh-hour chain boost that turns a narrow defeat into a squeaky win. With friends you might think you'd be able to team up to take down individual opponents; in practice, the chances of successfully coordinating an attack in a game this chaotic and frenziedly-paced are thin. As much as Codemasters endeavours to keep everyone bunched up, you're still more likely to get taken out by a wall or a rock than another racer.

Despite all that, *Onrush* has been built by a team that knows how racing should feel, and that might just be its saving grace. There may be no chequered flag to aim for, but the physical sensation of barging your way through a scrum of rivals remains. True, these lively, boisterous scuffles are probably best enjoyed in short bursts. But it's hard to dislike a game that dares to break the sacrosanct rules of its genre – even if it sometimes reminds you why they existed in the first place.

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Developer Codemasters
Publisher Deep Silver
Format PC, PS4 (tested), Xbox One
Release Out now (PS4, Xbox One), TBA (PC)

There may be no chequered flag to aim for, but the physical sensation of barging your way through rivals remains



CRATE EXPECTATIONS
It has been decreed that all modern games must now have loot boxes, and *Onrush* is no different. You'll earn one each time you level up, and since XP is handed out generously, you'll be opening them fairly regularly. Inside you'll find three cosmetic items of varying rarity, ranging from post-match celebration animations to vehicle skins, outfits and new mid-air tricks for bike riders. If you don't fancy waiting for a particular piece of gear, you can spend the credits you earn from each race. Then there are tombstones: floating pixel-art icons that are released whenever your vehicle is wrecked. Other racers can drive through these to gain extra boost, though the Blade class motorcycle can weaponise them, dazzling opponents who drive through them with a light.



ABOVE You can trade resolution for performance, but either way this is a good-looking game in motion. A photo mode lets you appreciate the finer details if you can bring yourself to pause the action.
LEFT Switch mode starts everyone off on bikes, with successive wrecks swapping your vehicle for sturdier models. Run out of switches and you can still help teammates take down rivals with the powerful Enforcer

BELOW Gates steadily widen after the first racer has passed through them in Countdown mode, which oddly means you've got more chance of successfully chaining them if you sit further back



ABOVE There is an option allowing you to turn some of the HUD elements off, though in a game this fast and frantic it's much easier to keep track of your opponents with everything left on



Yoku's Island Express

Combining pinball and exploration sounds like a bad idea. Pinball is play at its most focused and intense: the boundaries of its table keep things wonderfully tight and contained, while its alleys, ramps and rails take you on circuitous journeys that always eventually return you from whence you came. Exploring, meanwhile, is all about discovering the unfamiliar – and as such would seem to demand a degree of freedom that pinball can't possibly provide. Somehow, Villa Gorilla has not just found a happy medium between the two, but a way that these seemingly competing styles can enrich one another. With apologies to Yoot Saito, *Yoku's Island Express* might just be the most successful marriage between pinball and an entirely different genre we've ever encountered.

Sensibly, the developer doesn't attempt to explain the presence of pinball-table furniture in this sunny, welcoming tropical world. These features are, however, extremely handy for helping Yoku get about the place. Our hero is a dung beetle, accompanied not by a ball of excrement but a large white marble, to which he's tethered by a bit of string. You can send him scuttling around on his six stubby legs with the analogue stick, but he won't get very far that way; more often your left and right index fingers are his guide, activating launchers, bumpers and flippers that send the ball careening around, with Yoku clinging on as he attempts to fulfil his duties as the island's new postmaster.

It isn't long before Yoku's mundane responsibilities are replaced with more pressing concerns involving a slumbering deity and a malevolent force – at which point he's sent on a mission to locate three elders, each at the extremes of the map. It looks quite a trek to reach all of them, particularly since locations are clouded over until you've explored them, but you'll quickly realise you can cover a lot of ground in fairly short order.

From the icy peaks at the top of its world to the echoing, cavernous depths below, and the knotty jungles in between, this is a place that demands a thorough probing. Brought to life with delicate brushstrokes, it looks like a huge, intricately detailed concept painting, though it's the way you traverse it that proves most absorbing. The physics of pinball are still present, but the rules of the game have been relaxed: with no table to stop it, an undulating rail can end far from its entry point, taking you up, around and away. Sometimes these routes take you through dark undergrowth, evoking the sensation of being whisked off to some mysterious location. In its cheerful, carefree way, it's gently thrilling: pinball, it turns out, gives exploration a greater sense of momentum, pace and even purpose. And backtracking is no hardship when you're zipping around at this speed.

There's a fair bit of toing and froing involved, though progression feels remarkably organic. You'll occasionally stumble across a collectible you're unable to reach, but you tend to naturally arrive at new locations with the ability you need to pass through it. An unlikely hero comes with an unlikely weapon, a party blower letting Yoku smash urns for fruit – the game's currency – and awaken sleepy NPCs. A fishtail allows him to dive into pools of water, while explosive slugs slurp onto the ball, waiting to be fired towards rocks that otherwise refuse to yield. Later, you'll find yourself swinging between carnivorous blooms: grappling onto them is easy enough, but letting go at the right time as they violently whirl you around takes quite some mastering.

Even so, a swing and a miss might well hurl you someplace new, just as a mistimed jab of a flipper turns the 'wrong' trajectory into an unexpected shortcut. Pinball is not a relaxing game, and yet *Yoku's Island Express* is so easygoing that a missed shot is rarely frustrating. The thicket of thorns that lies beneath the drain merely takes away a few pieces of fruit, and they're easily regained once you launch back into the fray. Even the more exacting challenges, from boss fights that introduce a fresh take on multiball, or more puzzle-led sections that require you to hit specific targets, are relatively forgiving. And just as the map seems to be getting too large, a gloriously tactile fast-travel system makes it a more manageable size.

If this all sounds a little too lightweight and accommodating, *Yoku*'s postgame should test even veterans of the silver ball. Squat little wood sprites are scattered across the map, sometimes tucked away in nooks that require thought and skill to reach – and the game's final mystery requires you to locate them all. Several optional collectibles can only be reached using advanced techniques: those slugs can be detonated early, producing a kind of rocket jump that is essential for at least one hidden chest, and will surely factor into speedrun attempts. If the ending can be reached with relative ease, then attaining 100 per cent completion gives you the more you'll want as the credits roll.

There are occasions where progression stalls, where you find yourself going around in circles, bouncing hither and yon as you seek an exit. There are rare hold-ups, too, where the camera briefly fails to follow Yoku, or where the action freezes as the environment loads in, the fast-travel system proving a challenge for the code to keep up with. Otherwise, it's almost tempting to say that this feels like the combination of pinball and platforming that *Sonic The Hedgehog* wishes it was. Certainly, it captures that wonderful tension between being in control and suddenly finding yourself out of it, the analogue stick becoming briefly useless as you whizz gleefully down ramps and around loops. If at first it seems as if Yoku is clinging on for dear life, you'll soon realise he's happy to simply hang on and enjoy the ride. As, in all likelihood, will you.

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Developer Villa Gorilla
Publisher Team17
Format PC, PS4, Switch (tested), Xbox One
Release Out now

It captures that wonderful tension between being in control and suddenly finding yourself out of it



PAINT BALL
Baubles can be handed in at a store just beneath the village post office, unlocking a range of spray paints that can be combined to change the design of your ball. At first, these seem a mere cosmetic concern, but steadily you'll discover you need them to get past certain characters: a gang member only lets you by with a skull pattern, while an angry hive can only be placated when your ball looks like a bumblebee. The store owner gives you hints about where to use them, and there's a handy tap at the back to wash off any existing patterns. Three sprays at once produces a plain brown design, but even that comes in handy: some traditionalists, you'll find, prefer dung beetles to do the job they were born to do.

ABOVE Yoku might have a more important job than the one with which he's initially tasked, but he hasn't forgotten what he came here to do, either – to earn the title of Grand Postmaster you'll need to stuff all the letterboxes with mail. RIGHT Increasing your wallet's capacity is vital, since you'll need plenty of fruit to pay for maps that highlight the locations of chests and the adorable Wickerlings. Knowing their rough location is only half the battle: a cunningly concealed launcher is your only route to one well-hidden critter



BELOW The island is considerately designed: on the rare occasions a whiffed shot leads to a fall, you'll usually find a quick route back up





ABOVE Some challenges play out like miniature tables, but others are more like extended environmental puzzles. You'll need to ride a rising wave of hot coals to reach this hedgehog, who helps you with a sidequest later on

Smoke And Sacrifice

Good survival games are all about satisfying loops, and *Smoke And Sacrifice* is full of them. Fighting and crafting your way through Solar Sail Games' strange, dangerous and ethereally beautiful underworld is less a test of raw skill, more a matter of shrewd observation and careful planning. When you're on top of things, *Smoke And Sacrifice* is a high-stakes slow burn, its cycles of hunt/craft/fight lent extra narrative urgency by your role as a mother seeking her son. Lose track of your plans for even a moment, however, and you'll be left eking out a miserable, frustrating existence for hours on end as you struggle to start your various plates spinning again.

In that regard, we suppose, Solar Sail has nailed the experience of parenting. And while most of us, admittedly, wouldn't readily offer up our only son to a tree god, protagonist Sachi's story certainly makes for a more sympathetic survival game than we're used to. After a mysterious character hints that perhaps baby Lio isn't wholly lost, and Sachi is teleported into the subterranean realm to which sacrificed children are sent, she is determined to find him. In *Smoke And Sacrifice*, there's a reason to stay alive beyond simply surviving for yourself, and it reinvigorates a mechanical formula that arguably peaked with *Don't Starve*.

So, too, does the hand-drawn art. Sketchy, saturnine watercolour brings the underworld to Gothic life. Jellyfish-like Polyps shimmer and pulsate in verdant swamps. Icy tundras are littered with bones, and buried sea mines throb out of the snow like painful teenage acne. Factories crackle with electricity, and cobblestone villages are swarmed by giant, semi-spectral White Bats. With little in the way of meaningful landmarks or enemy variation, the four main types of environments may quickly become repetitive, but the overall illusion is one of a living, breathing world, even before the in-game ecosystem reveals itself.

It's easy to miss the details at first – two Polyps mating in a flurry of hearts to produce offspring; a Raptor preying on fat, juicy Anglermoles – but the aftermath of a scrap or an accidentally triggered explosion is frequently visible in the form of crafting materials. Soon enough, resourceful players will learn to set off these lucrative chain reactions themselves: luring giant hogs towards nests of highly poisonous insects, for instance, can yield plenty of useful loot and save precious item durability into the bargain.

Weapons, tools and armour all wear down with use, but all can be fixed. Initially, this system is a key aspect of what makes *Smoke And Sacrifice* so compulsive: almost everything in your inventory requires constant low-level attention, from a treasured Clockwork Shank, to the all-important lantern. With half the in-game day covering the world in the titular purple fog, a lantern's light keeps you safe from smoggy harm. Later on, a magical pendant grants a Light meter that can buy more time against the smoke – but the core lantern-crafting loop is the main defence. Glowing insects power the lamp, which depletes with use; a net is used to catch the flies; the net also wears down with use, which requires a material found in Polyps to fix. It's usually simple enough to keep ticking over, and the narrative around the smoke and its effect on the inhabitants of the underground realm is absorbing. Sadly, after a while, fumbling through the fussy UI to equip a lantern mid-fight becomes an irritating distraction that offsets the mundane pleasure of keeping the system running in the first place.

This is infinitely more bearable, however, than the kinds of hellish Moebius loops it's possible to get stuck in during the game's final act. The last push to the conclusion of Sachi's story sees NPCs pile a heap of new crafting recipes upon you, and send you off to get prepared. These require some of the most hard-to-find materials in the game, which drop from the toughest creatures. Neglect to sufficiently upgrade the correct weapons in time, and you'll soon find yourself sliding into a pit of busywork that's hard to escape.

You can repair damaged weapons and gear with a special kind of craftable powder or glue, which need specific ingredients. But many of these, and other, materials in *Smoke And Sacrifice* naturally decay over time in your inventory. You might spend time in the tundra collecting Chicken Chunks to make glue for your damaged Rubber Boots, but they will slowly rot and eventually disappear while you hunt the other requisite materials. Drops can be unreliable, and prey can despawn.

All the while, your Snow Boots are deteriorating on tundra, which introduces a whole other crafting loop to grind for. And should you accidentally allow weapons or gear to break in the process of hunting things to fix them, you'll have to craft them again from scratch, which requires different materials. Fail to work out the correct order in which to approach your crafting loops, and it's possible to cheat yourself out of hours of work.

It's unrelenting, and deeply frustrating – especially when the story is gearing up for its climax. Solar Sail Games should undoubtedly be commended for the amount of intrigue it's able to build around its world, and the continually compelling narrative justification for Sachi's survival. It's a shame that so many of its systems are so hostile as to get in the way of it. There's nothing wrong with a challenge, of course, and survival games should be gruelling, but this is a game for hardened genre veterans which demands perfection from the outset, with little margin for error. Given that *Smoke And Sacrifice*'s end point truly feels like it means something, it's heartbreaking that many will get stuck riding its mundane merry-go-rounds.

6

Developer Solar Sail Games
Publisher Curve Digital
Format PC, Switch (tested)
Release Out now

This is a game for hardened genre veterans which demands perfection from the outset



TOTALLY TUBULAR
Smoke And Sacrifice's fast-travel system – a series of steampunkish Travel Tubes – is built generously into its open world. Once discovered, tubes can be unlocked for use by inserting three Drear Tokens found in breakable barrels. The cost makes it a considered feature, and the map is so sprawling that the tubes always feel convenient instead of a cop-out. (Indeed, in the game's early hours, trying to uncover the fog of war and figure out how to get to objective markers in the huge world can be infuriating, especially with huge parts gear-gated by late-game boots.) They could do with invulnerable surroundings though: enemies seem to like to camp out at tubes, meaning sometimes you can teleport into an immediate and rather unfair battering.

ABOVE Parts of the world are gear-gated. There seems to us to be endless electrified floors; we burn through rubber boots at a pace. **RIGHT** The 2D artstyle and the lack of outlines mean that it can be hard to see hitboxes, or ascertain which bomb type you're holding



BELOW Sidequests are little more than fetch quests, but atmospheric writing means each one feels worth a detour from the critical path





ABOVE Combat can often be a creative, but imprecise, endeavour. Planning and preparation is therefore key to fights against foes with trickier attack patterns, as is managing your Light, which can grant a temporary shield

Just Shapes And Beats

Sporting what is perhaps the most self-effacing title in videogames, *Just Shapes And Beats* promises just two things, and does both of them admirably. The design is simple and graphic, the music relentless, and the premise straightforward: avoid touching anything that's bright pink.

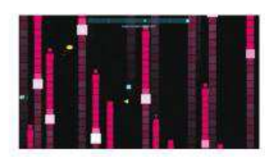
You're unlikely to get much out of this musical bullet-hell game if you don't enjoy a) chiptune, EDM and other genres predicated upon the melodic abuse of a Game Boy, and b) stress. Slick, accurate controls comprise just a thumbstick and an invincibility dash – but twitchy and frantic, with a bone-shuddering amount of screen-shake when the bass hits, dodging your way through a level feels like getting beaten up by a particularly nasty graphic equaliser. The obstacles in each are handcrafted to match the theme and rhythm of the licensed tunes, and Berzerk Studio has managed perfect synchronicity. There are cascades of comets in Bossfight's Milky Ways and kaleidoscopic geometry to navigate in Spectra by Chipzel. Pegboard Nerds' Try This, meanwhile, opens with a brilliant recreation of the Bond gun-barrel sequence, turning into a deadly scrolling escape attempt. The audiovisual synergy is spot-on: we tap the dash button in time with the beat to phase through fuschia spikes, and learn to anticipate attacks as phrases repeat or the music builds to the drop.

It's tough, but hardly ever unfair. Most attacks are well signposted by dotted lines or translucent colour to give you time to reposition. Regular levels have checkpoints, giving you three lives before forcing a restart (and if you're playing in co-op, the ability to resurrect other players proves essential). Boss fights dispense with them, and the stakes are higher. But it's in these show-stopping sequences that certain design choices begin to grate. If you're hit, the knockback generally feels a fitting punishment – there's panic as your positioning is disrupted, and a shield gives you time to reorient yourself – unless you're punted behind a sea of magenta and lose sight of your avatar entirely, taking an undue amount of damage. Your hurtbox can also be confusing: we regularly escape what seems to us like indisputable death, which can sour a victory.

Mostly, however, this bullet hell is excellently assembled and riotously inventive. If you're not chasing S Ranks on your favourite tracks, you'll be rounding up friends to expose them to some of its more diabolical sequences. Like a multi-limbed horror constructed from nothing but pink circles and a bassline, the combination of *Just Shapes And Beats*' simple elements are more sophisticated than its modest title might have you believe.

7

Developer/publisher Berzerk Studio
Format PC, Switch (tested)
Release Out now



MODE TO JOY
Just Shapes And Beats has a generous array of modes to hold interest after the credits have rolled on the three-hour story mode. Set across an overworld map punctuated with light interactions, it tells a basic but charming tale. A casual mode offering double HP is a balanced option for the less masochistic. Challenge mode or online head-to-heads unlock songs, as does completing objectives such as finishing a level without a single dash. Party mode feels moot, so easy that it's toothless – but Playlist is the standout, letting you create a collection of your favourite tracks to play through in your chosen order.

Boss fights are powered by their own little narratives. Completing the lengthy and complicated Close To Me battle is satisfying – provided you don't get lost behind the large pink border in the final phase



Quarantine Circular

Buoyed by the warm reception that greeted last year's sci-fi detective short *Subsurface Circular*, Mike Bithell has returned to the well within a brisk 10 months. Despite sharing half its title and all its interface with its predecessor, Bithell's latest text-based narrative game has a markedly different focus. It's still a talky, single-location drama – a kind of bottle episode in game form – but this time the stakes are much higher. As a global pandemic threatens humanity's existence, a group of scientists aboard a seabound vessel are holding an alien visitor captive, trapped within the limited confines of the ship's helipad. Could this interloper be responsible for the plague, or might they be able to offer a solution?

If only you could talk to the creature, hmm? Happily, thanks to some handy translation software, an uneasy dialogue can begin. First, an affable tech support worker has the chance to earn the trust of this imposing stranger, before an openly hostile security officer and sceptical PhD student butt in. A businesslike admiral and a curious epidemiologist round out the cast, and you'll get the chance to play them all, shaping the conversation for the next two hours or so. As in *Subsurface Circular*, steering the conversation down certain paths opens up optional 'focus points', letting you uncover potentially vital information to inform later choices. Each character has different agendas, and sometimes conflicting objectives. That includes the alien (optimistically given the name Gabriel) which must attempt to win over the suspicious humans.

Saving the world – or, just maybe, dooming it – through dialogue and diplomacy rather than physical conflict is an appealingly rare concept in games, and the precarious scenario lends these exchanges a fidgety tension during key moments. Bithell's writing is at once thoughtful and witty, engaging with weighty themes such as the ethics of intervention in natural selection, while allowing room for some clever wordplay. A rap battle of sorts feels a little too cute in the circumstances, though there is something quintessentially British about wryly quipping in the face of imminent catastrophe.

Occasionally, the script is a little *too* keen to present a humorous option rather than a logical one, deflating the tension it's worked so hard to build. Dan Le Sac's soundtrack is guilty of the latter, too, failing to sufficiently adapt to shifting circumstances, and becoming a distraction during friendlier exchanges. Still, if Bithell's eagerness to have a household name in the credits of his games doesn't quite pay off this time, *Quarantine Circular* is an absorbing reminder of the power of words and how we wield them. Not bad for a bunch of nerds and an alien arguing on a boat.



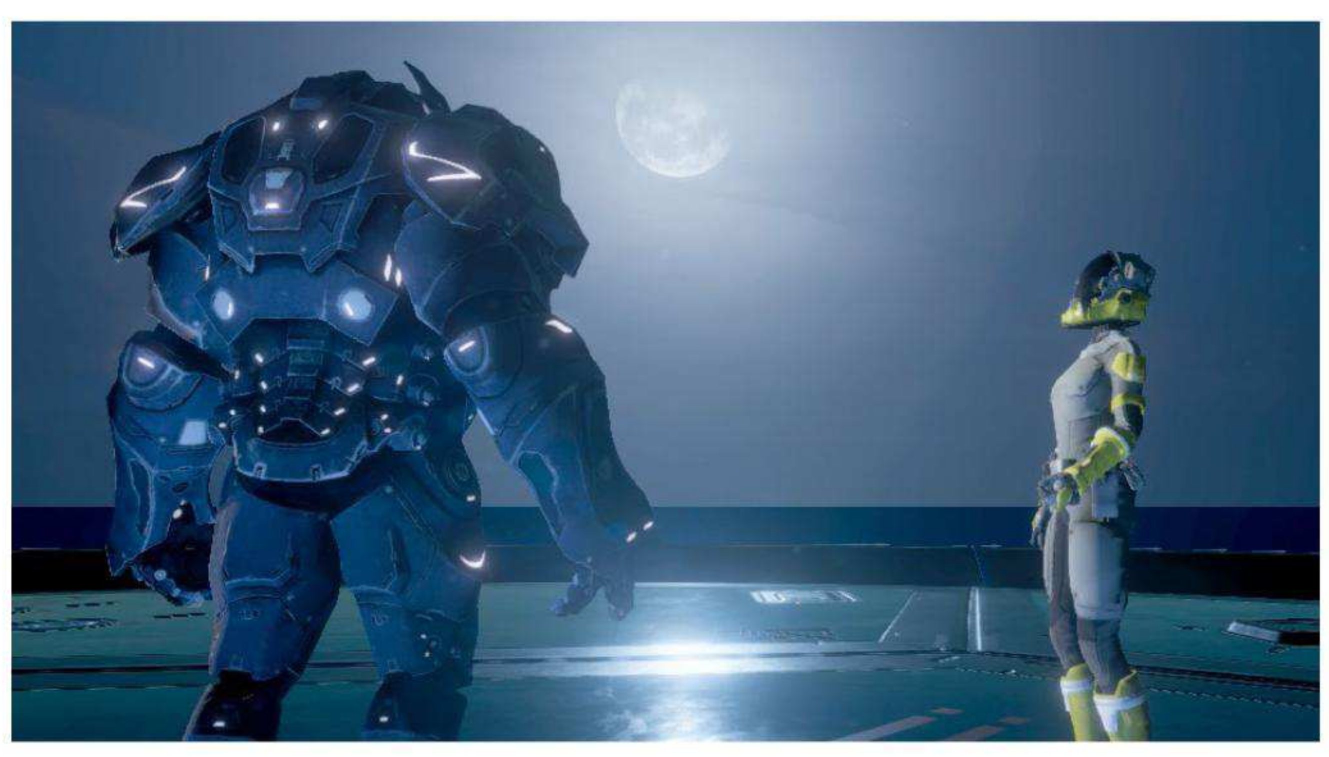
7

Developer/publisher Bithell Games
Format PC
Release Out now



OPEN MIKE
A second playthrough is illuminating. The choices in the final chapter may have already made it clear that events can pan out differently – likewise, the game's achievement list – though it's not until another run that the broader impact of your decisions is laid bare. There's a candid developer commentary, too, which takes the form of additional conversation options, letting you decide when you want Bithell to chip in with bonus info.

A restraint prevents Gabriel from leaving the helipad's central circle. It's a contrivance that keeps everyone in the same place, though as a result it feels more awkwardly stagey than its predecessor



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Laser League

Roll7's latest is its best game to date, a future-sport humdinger that carries itself with the nonchalant assurance of the studio's previous work, with a layer of refinement that pushes it a step beyond them. *Laser League* feels like a high-quality remake of a classic arcade game that somehow never existed, its fierce arena battles playing like a combination of dodgeball and Tron, with just a hint of *Robotron* in the way you find yourself navigating perilously tight spaces. Its best-of-three matches crackle with energy and danger, flitting between nervy standoffs, desperate lunges and all-out chaos in a matter of moments.

Your goal, whether it's one-on-one or four-a-side, is to knock out your opponent before they can do the same to you. Though certain player classes have weapons that can eliminate rivals, the damage is mostly done by moving laser barriers. These are produced by floating nodes that spawn and shift around these wraparound arenas; as such, your earliest objective in any game is to establish control by capturing them. You're able to pass through any barriers of your team's colour, but your opponents' are deadly to the touch.

Arenas come in a range of phosphorescent hues: they're otherwise interchangeable, though the node layouts vary greatly. Some afford you the room to go toe-to-toe with your rivals, while others become claustrophobic within seconds; long barriers spin lazily like the Helirin from *Kuru Kuru Kururin*, while other nodes send lasers fizzing across the field. You'll need to master the art of warping – passing through the lower wall to emerge at the top, or heading right to steal a node on the extreme left or pull off a pantomime ambush. And then there are pickups to contend with: these affect the movement or polarity of the lasers, and can turn a game on its head in an instant. As, too, can each class's special skill. You might shock an opponent to incapacitate them as a barrier approaches, or trace a line across the pitch to launch a sniping attack.

Even without these abilities, you sense this would be something special, but having specific roles transforms *Laser League* into a properly tactical affair. With eight competitors it's a little too crowded, which may explain why three-on-three is considered the default. Here, the balance of power teeters this way and that across long, tense rounds, and there's always room for rousing late comebacks, whether it's via a daring dash to revive a fallen colleague, or a shield charge that sends two opponents tumbling into your only active barrier. Servers seem a little sparsely populated – that uninspiring name probably did it no favours – but otherwise Devolver's loss is 505's gain.

9

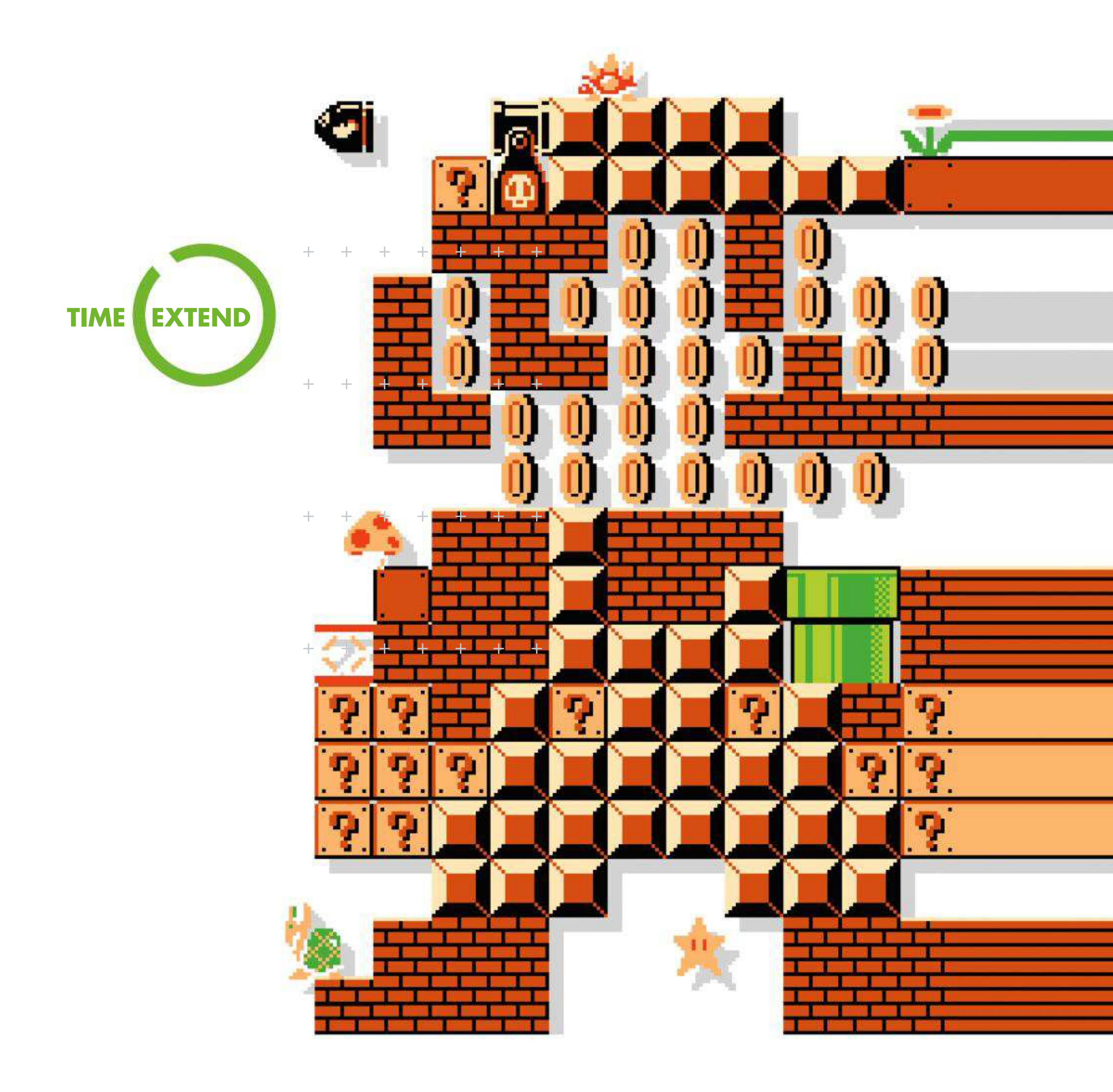
Developer Roll7
Publisher 505 Games
Format PC, PS4 (tested), Xbox One
Release Out now



LIGHT DISRUPTION
If not enough online players can be found in time, AI bots are automatically invited to make up the numbers. They're the only real weakness here. During standard matches they seem reasonably capable, top scoring as often as not, though their shortcomings are exposed when human players are out of the game. Without the support of their teammates they get in a bit of a flap, making baffling mistakes and occasionally appearing weirdly reluctant to revive their fallen comrades.

The obligatory progression system gives you a range of cosmetic unlocks that you can only really see during the pre-game posturing and post-victory celebration. Still, the game's quality is incentive enough to keep playing





Super Mario Maker

A hard act to follow in every sense

By Chris Schilling

Developer/publisher Nintendo (EAD) **Format** 3DS, Wii U **Release** 2015

By the time you read this, there's a chance that Braden Moor, aka ChainChompBraden, will have finally finished his *Super Mario Maker* course, Trials Of Death. It's a small one, however. The end of April marked Moor's 877th day of trying (and failing) to beat it. Between his genuine upload attempts and time spent in the level editor itself, Moor has clocked up more than 2000 hours, according to the stats on his Twitch channel.

It's easy to see why he hasn't managed it yet. On the first screen alone, a giant winged fireball flies directly towards Mario the instant the stage begins, while four ridiculously long fire bars spin at different angles. Mario must run left to collect a Buzzy Beetle shell, launching it off a wall, before juggling a falling P-Switch and a Springboard to bounce over to the next set of hazards.

And that's just for starters. A later section sees Mario surrounded by walls while swinging Chain Chomps lunge towards him; another has him spin-jumping between an active bomb and flying Boos before collecting a Super Mushroom and deliberately landing on spikes to get past a Grinder blocking his path, thanks to the precious few moments of invincibility Mario has after taking that first hit. Each of these sequences lasts a matter of seconds; a successful run, Moor reckons, should take around eight minutes.

This kind of hellish challenge isn't actually that uncommon in *Super Mario Maker*. Trials Of Death is merely the logical extreme of a trend that quickly saw a tool designed to democratise the creative process become a way for hardcore players to challenge themselves – and each other – to make the most difficult *Super Mario* stage ever.

It took all of nine days for this arms race to begin in earnest – coincidentally, the length of time Nintendo had initially hoped to drip-feed *Super Mario Maker*'s features, before strong criticism forced a hurried patch to accelerate the process. You can see Nintendo's thinking: it had finally relinquished full control of its biggest asset, and was evidently keen for players to take their new power seriously. As with Takashi Tezuka and Shigeru Miyamoto before them, wannabe level designers would have to work within strict limitations against a gridded backdrop, much like the graph paper *Mario*'s makers had used to construct World 1-1 all those years ago. As many a game designer will tell you, restrictions can encourage creativity to flourish. But having the full palette available allowed the most dedicated creators to get really devious.

On September 19th 2015, YouTuber Bananasaurus Rex, who had gained internet notoriety two years before for completing a solo eggplant run in *Spelunky*, attempted a course made by Alex 'PangaeaPanga' Tan, called Bomb Voyage. It's not a particularly long stage by *Mario Maker* standards, but it requires the player to use active bombs as both platforms and a way to blow up obstructions, as well as playing keepy-uppy with a larger bomb (a Buzzy Beetle helmet cushioning Mario's head from the impact). Then Yoshi must swallow a Lava Bubble with perfect timing, a split-second before you abandon the poor fellow to the void below – albeit not before he spits out a three-way flame to activate another bomb encased within ice blocks. Little wonder a total of 11,000 community attempts had failed before Rex became the first player to beat it.

Tan upped the ante further with his next creation, Pit Of Panga: P-Break, which took him five hours to build and a further nine to finish. He streamed the latter on Twitch, attracting a huge audience; indeed, the YouTube video of his first clear has well over four million views. In effectively showing his working, Tan had perhaps made P-Break a little easier to complete than its predecessor, but it's one thing to know how to complete a level like that, and quite another to pull it off. Five days later, a video emerged of a Japanese streamer completing the stage, screaming a breathless, euphoric "Yatta!" ("I did it!") as he hits the axe to trigger the end of the stage, before bursting into tears, inspiring others to take up the challenge.

A few days later, with more than 40 players having finished P-Break, Tan declared himself dissatisfied, going on to produce an even more difficult sequel. ▶

U-Break took him four times longer to complete, and eventually earned itself a Guinness World Record for 'Most difficult level created in *Super Mario Maker*', with a completion rate of less than a hundredth of a percent. The challenge had been extended, and other creators began trying to top Tan's efforts. While Nintendo steadily added extra character skins and features to the game, almost every *Mario*-related story that appeared on specialist websites from then on was highlighting a new 'hardest level ever'.

Notably, of the four different game styles, almost all of these stages used *Super Mario World* as their basis. Nintendo might have implemented the physics from the *New Super Mario Bros* games across all four styles for the sake of consistency, but it otherwise remained true to the historical systems of the four featured games. With the ability to throw objects upwards and perform spin jumps, with the addition of the cape feather among other features, *World* proved the most flexible of the four styles. In our book, that only helps cement its position as the best 2D *Mario*, though we're sure our American cousins will disagree.

But there was another reason for *World* being a favourite of this select group. Tan cut his level-building teeth in the ROM hacking scene, using *Super Mario World* to build a series of nigh-impossible courses. Inspired by *Kaizo Mario World*, a trio of ROM hacks of the SNES original game – sometimes referred to as Asshole Mario for their calculated cruelty – he constructed one course that is widely regarded as the most difficult *Super Mario World* level ever devised. Item Abuse 3 requires a tool that allows for individual frame inputs: even with this assistance, it took him three years, on and off, to assemble the stage and then beat it. One of many highlights sees Mario, clutching a green shell, floating over a giant chasm while juggling an upturned red shell with the back of his cape.



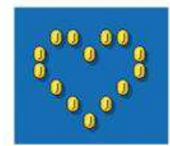
While most of the hardest *Mario Maker* levels used the *Super Mario World* theme, Japanese player Luna favoured *NSMBU*. The creator took more than 300 hours to upload their course; it was beaten within 50

To watch a successful run like this is to marvel at both the intricacy of these course designs and the skill required to overcome them. That's true of many speedruns, of course – but then in most cases, the player and designer aren't the same person. Nintendo's decision to ensure *Super Mario Maker*'s creators had to complete a stage before uploading it meant that designers had to get good – to not just be meticulous builders, but expert players, too. And while interest in the *Kaizo Mario* scene spiked as a direct result of *Super Mario Maker*'s popularity, the latter had one key advantage. Those ROM hacks might have afforded the likes of Tan a little more creative leeway, but now Nintendo was offering something more prestigious: a stamp of approval. Sure, several of these user-designed stages looked a lot like *Kaizo Mario* courses, but completing and uploading a stage essentially meant they were Nintendo-endorsed. Yet, predictably, while Tan's profile was elevated by his creations, Nintendo subsequently

DESIGNERS HAD TO GET GOOD – TO NOT JUST BE METICULOUS BUILDERS, BUT EXPERT PLAYERS, TOO



Players were only able to rate courses they'd cleared; those that offered a fair challenge earned the most star ratings



SMALL WORLD

Nintendo seemed to underestimate players' creative zeal: the sheer volume of uploaded courses meant that some found their earlier works being deleted. As such, when *Super Mario Maker* got its inevitable 3DS port, Nintendo restricted stage sharing to StreetPass. Some critics wrote off the portable version as pointless, but it had its advantages. In enforcing the notion that creation was its own reward, it may well have encouraged players to take more care over their work. A tutorial that explained the art of good level craft was welcome; likewise, a campaign of sorts boasting 100 levels, with bonus medal challenges providing extra design inspiration. In fact, its best courses surpass the two *New Super Mario* games on 3DS.



New outfits for the *Super Mario Bros* theme were introduced alongside bonus levels – Nintendo's unlikely partnership with Mercedes saw the car maker get its own course

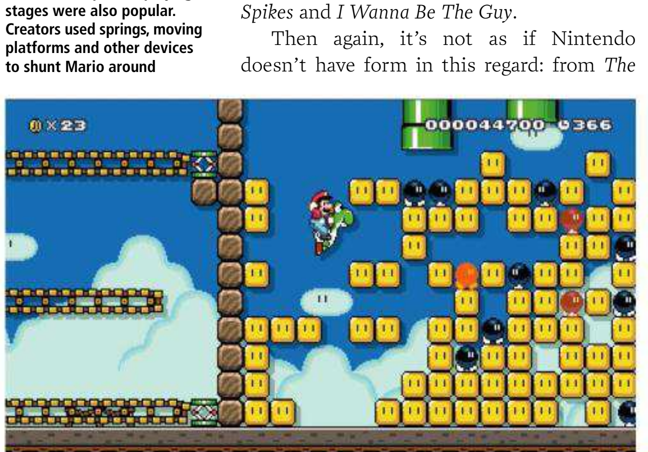
clamped down on his work, launching a DMCA claim that meant he was forced to remove all tool-assisted speedruns from his YouTube channel, to his evident displeasure.

Of course, part of what made the *Kaizo Mario* hacks appealing in the first place is the same thing that makes *Mario Maker*'s most masochistically difficult courses so compelling to watch. There is something inherently subversive – taboo, even – about using the tools that defined a genre for such mischief, building the kind of levels that would never get the Nintendo seal of quality. Likewise, in disrupting the natural order of things by presenting one of the medium's friendliest faces with the kind of challenge you'd more commonly associate with masocore platformers such as *1001 Spikes* and *I Wanna Be The Guy*.

Then again, it's not as if Nintendo doesn't have form in this regard: from *The Lost Levels* to *Super Mario 3D World*'s Champions Road, it's well aware of the subset of its audience that wants to be tested. As such, when questioned about the number of difficult courses, Tezuka seemed entirely unperturbed. "I expected that the users who wanted to play more of the hard courses would be attracted to *Super Mario Maker*," he said, "so it's not surprising to see that a lot of difficult courses are being made." Indeed, Tezuka went as far as to say that the community's creative efforts had been "a huge motivation for us developers to do better". But that impact has seemingly gone some way beyond mere level-design inspiration. Take Switch's video sharing, for example: much as *Breath Of The Wild*'s reactive sandbox and malleable puzzles proved ideal as half-minute highlights, it's hard not to think that the viral popularity of *Super Mario Maker*'s most fiendish user-generated courses played some part in the feature's inclusion.

The game's appearance on Switch is surely an inevitability – not a matter of 'if' but 'when' – though given that the original was so firmly tethered to Miiverse, a sequel rather than a port seems more likely. Otherwise, *Super Mario*'s makers may currently be facing a challenge almost as formidable as Braden Moor. After all, any 2D *Mario* without these creative tools would surely seem like a retrograde step. Having handed us the keys to the castle, it would be rather rude of Nintendo to snatch them back. ■

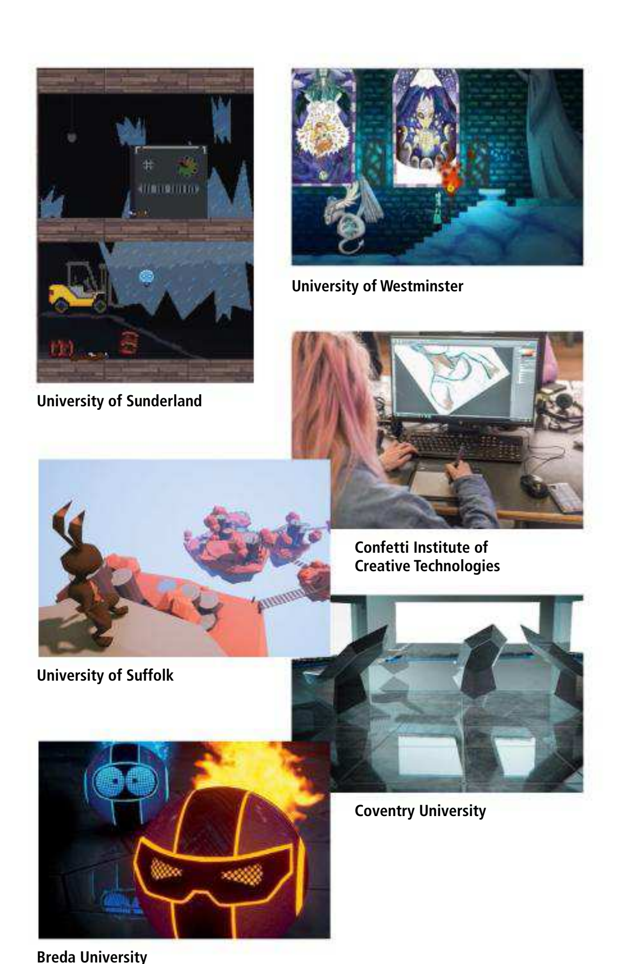
Though the cream tended to rise to the top, auto-playing stages were also popular. Creators used springs, moving platforms and other devices to shunt Mario around





GET INTO GAMES 2018

Our annual round-up of some of the best courses, universities and institutions that can help you forge a path into the videogame industry



University of Sunderland

University of Westminster

Confetti Institute of Creative Technologies

University of Suffolk

Coventry University

Breda University

124 UNIVERSITY OF SUNDERLAND

126 UNIVERSITY OF WESTMINSTER

128 CONFETTI INSTITUTE OF CREATIVE TECHNOLOGIES

130 UNIVERSITY OF SUFFOLK

132 COVENTRY UNIVERSITY

134 BREDA UNIVERSITY

Rule by degree

In recent years, Edge's annual Get Into Games feature has, in addition to profiles of the universities and institutions that can prepare you for a career in games, looked at what else you can do to bolster your chances. We've covered game jams, emerging technologies, free engines and modding, among others. All can, no doubt, get you experience and a good portfolio. But it was last year's panel of industry voices (see E309) that made us realise we needed to change tack.

Yes, you can still brute force, or luck, your way into the game industry. And a great portfolio will still help you stand out. But we saw a pattern last year. Those of a certain vintage got into games in all sorts of ways. One had a marine-biology degree; another ran a videogame shop. The younger they are, however, the more qualified they are – and the more directly specialised.

As a result, this year we've decided to get out of the way for once, and let the focus fall squarely on education providers. Game-related courses have come on tremendously in recent years, and in the following pages you'll hear from insitutions that increasingly resemble working videogame studios. They have access to all the same tools and technology, and operate in much the same ways. They understand, just as we've been saying all these years, that the best way to learn how to make games is to, well, make games.

We recognise that a sizeable chunk of Edge's readership is comprised of people who aspire to a career in the industry. So we're in discussions to run Get Into Games more than once a year. If you have any suggestions on how it might be improved, do get in touch at edge@futurenet.com. ▸

GET INTO GAMES PROFILE



Location Sunderland, UK



ADAM CLAYDEN
Senior Lecturer in Games Software Development
sunderland.ac.uk
Currently playing: "*Horizon: Zero Dawn*. The visuals are fantastic and the hunter-gatherer aspect of the game has been pulled off superbly."

INDUSTRY ADVICE

"Graduates should develop their online portfolios by creating a series of finished games that are small but high quality to demonstrate their passion and experience of going through the game-development process. They should also be able to demonstrate their initiative in organising teams to develop a game as that grants a different experience to working solo."

University of Sunderland

A forward-thinking institution with a collaborative approach

Given its origins as a technical college, it's no surprise that the University of Sunderland specialises in programming. Yet as part of its BSc (Hons) Game Development course, it also aims to simulate a creatively invigorating studio environment where collaborative ideas to thrive, as senior lecturer **Adam Clayden** explains.



Passion is paramount in prospective students, Clayden says. "If you are passionate about the industry and want to make games for a living then we will provide you with the creative environment to do so"

Why should students choose the University of Sunderland?
We're at a strategically placed location with several game studios on our doorstep. We have the likes of Epic Games and Coatsink within the city, Ubisoft and Sumo Digital in Newcastle, and the Tees Valley to the south. We also aim to facilitate employability through guest lectures, game jams, and careers advice from day one. A passion for games doesn't come from just making them; we like to play them and compete in them. Sunderland has taken steps to keep that passion alive through annual tournaments and societies such as our eSports Society, helping foster a friendly, collaborative community.

> "The game-development process is built on trying, failing and learning"

What sort of collaborations can students expect to take part in?
With BSc (Hons) Game Development being a gameplay programming focused degree, it's vital our students collaborate with other disciplines. In the second year, students work together with those from our Animation & Games Art degree as part of a studio environment, developing a full game from start to finish. Their final-year project is exposed to the industry via our end-of-year showcase, where students reveal their game at our state-of-the-art 203-seat cinema. The top teams from the second year will also qualify, giving students the incentive to let their creativity flourish.

How have you adapted your teaching approach to meet industry demands?
We live in an age where students simply *need* to be taught topics such as multithreading and modern C++. We're seeing leaps and bounds in terms of game performance in engines such as Unity through the new Entity Component System. Such new concepts have to be learned and then communicated to our students. At Sunderland we believe that it is essential to remain at the forefront of industry so our students will always learn the cutting edge.

Which tools does the course focus on?
Our primary teaching tool is Unity. We feel the best way to learn game development is to make a lot of games, and Unity helps achieve this. With its main language being C#, and with C# being one of the main taught languages in this degree, students will be exposed to both from day one, allowing for a streamlined process into game development. In our new Rapid Game Prototyping module, we also use Unreal and the increasingly popular Godot engine to take advantage of their visual scripting capabilities. Visual scripting helps to rapidly build a concept, test that concept, and reiterate as necessary before redeveloping in a more efficient language such as C++.

What do you hope graduates take away from their time at the University of Sunderland?
Being an undergraduate lets you meet people who will challenge you, and encourage you to become the best version of yourself. University is a safe space to face challenges, and a lot of the game-development process is built on trying, failing and learning how to overcome those challenges. I would hope students think about all the opportunities that were provided here and to take the knowledge they've gained to new heights. ■

GET INTO GAMES PROFILE



Location London, UK



MARKOS MENTZELOPOULOS
Senior Lecturer and Course Leader, BSc (Hons) Computer Games Development
westminster.ac.uk

Currently playing: "*Assassins Creed Origins* and *Total War*. I love the way Ubisoft allows me to time-travel and experience worlds and civilisations I've only learned about through books. I've been a big fan of *Total War* since *Shogun*. Creative Assembly has done amazing work with AI in the latest editions."

INDUSTRY ADVICE
"Stay current – it's a good idea to understand the whole game market, not just your own sector. That way you can stay on trend in a fast-moving industry. And don't get too hung up on what others are doing. Be yourself."

University of Westminster

A wide-ranging game course producing real results

The University of Westminster has a vastly experienced team of lecturers, allowing students to benefit from strong industry connections. Senior lecturer **Markos Mentzelopoulos** details how the university's flexible BSc (Hons) Computer Games Development course empowers undergraduates to specialise and innovate.

What sets the University of Westminster's course apart from other institutions?
The degree course covers all major technical elements of the development process from design through to production. The degree course prepares students for a career in software development with an emphasis on computer games. It provides them with a solid understanding of technologies including object-oriented programming; applied maths and physics; computer graphics and game engines; and game networking and AI. Students are supported in exploring a broad range of knowledge and skills including mobile and web app development, 3D modelling and animation, and human-computer interaction.



The University of Westminster encourages undergraduates to take part in game jams. A jam organised by AppBox Media last year directly resulted in work placements for some Westminster students

> "Students are supported in exploring a range of knowledge and skills"

What kind of industry experience do you have among your staff?
The teaching team here includes experts such as Paul Rosson, a Unity developer with game industry experience. Another notable member is Drew Cattanach, an experienced developer with industrial background from EA, and Jeffrey Ferguson, a motion-capture specialist. The team also includes several computer-science academic experts with experience in the field of computer graphics and vision, such as Dr Anastasia Angelopoulou and Dr Li Jin.

Which tools can students expect to work with?
We aim to offer them the best of the best. We have a motion-capture facility, VR equipment including HTC Vive and Oculus Rift, Xbox One and PS4 development kits, and PCs with Unity and Unreal Engine 4. Our facilities include a specialized Games Project Lab, equipped with cutting-edge technology and consoles for students to research and develop their games as well as socialise in their spare time between academic activities.

What kind of opportunities does the course offer to help ease graduates into the industry?
We regularly organise talks for students, inviting external speakers from creative industries and major players in the gaming world to give them an understanding of what will be expected from them when they start their careers. We have organised digital showreel events, to which industry members are invited. These provide great networking opportunities for students. We also organise our own game jam with company sponsorship.

What do you look for in prospective Westminster students?
We're looking for talented people with a passion for games. Experience in programming and design are not essential, but willingness is important. The course will provide a broad knowledge to support their future career either as game developers or in any other post as software developers.

What lessons would you like graduating students to take away?
Our mission is to help students develop the necessary skills to anticipate and be ready for the technological advances of modern society through teaching, scholarship and research, and to provide them with an education based on sound foundational principles that will retain its value throughout their career. ■


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Artwork by: Tiziana F. Ruiu

GET INTO GAMES PROFILE



Location Nottingham, UK



GIN RAI
Course leader, BSc (Hons) Games Production
confetti.ac.uk

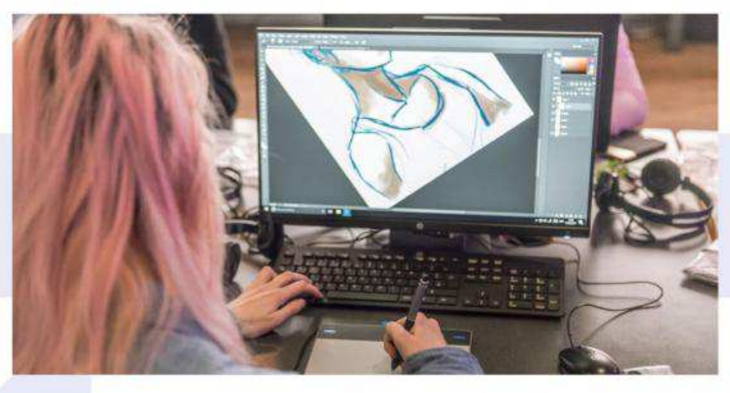
Currently playing:
It's important to remain active in the industry you're involved in. I've just 100 per cent completed the new *God Of War* which is an absolute masterpiece, and I'm 200+ hours into *Monster Hunter World*, which is a beautiful addition to a franchise I've played from the start.

INDUSTRY ADVICE
"Unequivocally, passion drives people to put in hard work, and generates a desire to learn, persevere and pursue their dreams. My advice to any and every graduate is to always stay hungry, and that 'practice makes good'."

Confetti Institute of Creative Technologies

A progressive institution helping students find their calling

Having partnered with Nottingham Trent University in 2015, the Confetti Institute of Creative Technologies offers a range of courses from college to postgraduate level. It's looking to provide students with the clear guidance and opportunities they need to make their dreams a reality, explains BSc (Hons) Games Production course leader **Gin Rai**.



Confetti boasts impressive employment rates from both college and degree graduates – in fact, Rai says, 96 per cent of undergraduate students are in work or further study within six months of graduation

What makes Confetti the best choice for prospective students?
We've been running specialist games courses for over ten years. The premise is to bridge the gap between industry and academia to provide an experience that truly prepares students for employment in the creative industries. Following more than a decade of evolution of our courses and facilities, we have students employed at some of the world's biggest game companies – including Rockstar Games, Ubisoft, Codemasters, Riot Games, Quantic Dream and Splash Damage.

You run a range of courses. Is it becoming increasingly important for students to specialise?
We recognise that being in the creative industries requires a level of specialism, rather than a jack-of-all trades skillset. Our students are given given projects to develop their skills in games technology, development and art, among others, so that they're able to find their true calling. It's a challenging prospect to find your ground in such a competitive industry, and with that in mind, we design our courses to make this process clearer.

What are the primary focuses and functions of Confetti's postgraduate courses?
Our postgraduate courses wholly focus on specialism. The technology industry evolves at an exponential rate. Our students are given state-of-the-art tools and facilities, alongside the academic theory underpinning top-tier research to generate projects that have both purpose and meaning. The ethos is to try and create something that can make a difference.

"Our students are given state-of-the-art tools and facilities"

College-level game courses are relatively rare. Do Confetti courses have a more general focus?
Our college courses are split into Games Art and Games Technology. The focus is to create strong foundations of knowledge in those industries so that our students can build upon them over their learning journey at Confetti and beyond. These courses should, and do, give students a clear understanding on what it takes to be in the industry.

What software do the courses mainly focus on?
Across all of the games courses offered at Confetti, we focus upon the predominant usage of Unreal Engine 4, the Autodesk Suite comprising of 3DS Max, Maya and Mudbox, Adobe Photoshop CC, Quixel Suite 2.0, Substance Painter/Designer, ZBrush and Marvellous Designer. We develop skills in the usage of new software and implement this into our courses to ensure the experience our students have is up-to-date and relevant to the game industry.

Finally, what do you hope graduating students will have gained from their time at Confetti?
The greatest feeling a student can have when they graduate is an enjoyable learning experience, which, at the heart of it, reinforces a student's purpose and aspirations for the future. This is what our games team provides. Our students leave with contacts in the game industry and with like-minded creative technologists, and an ability to become part of one of the world's largest entertainment industries. ■

GET INTO GAMES PROFILE



Location Ipswich, UK



DAN MAYERS
Course Leader, MSc Games Development
uos.ac.uk

Currently playing: "Fed up of being humiliated by my kids at *Fortnite*, I bought a Switch, a copy of *Zelda* and a padlock for my bedroom door. I'm only unlocking it when *Dark Souls* arrives."

INDUSTRY ADVICE
"Development is about taking small steps towards a big goal, but sometimes it's easy for that goal to become so overwhelming that you can't face carrying on. Because it's too complex. Or there's too much left to do. Or because everything's broken. Keep going. Those small steps will get you to the end – eventually."

University of Suffolk

A supportive, collaborative course – before and after you graduate

The University of Suffolk has a keen focus on teamwork, using its industry experience to give students the practical know-how to make and ship a game, while welcoming undergraduates from other subjects with game-related ideas and skills. MSc Games Development course leader **Dan Mayers** lays out the benefits of its synergistic approach.

What makes the University of Suffolk attractive for those looking to study game development?
We teach the theory of game design and programming, but we place a big emphasis on the practice of making games as part of a team. Our students are continually developing projects in game jams, spinning up rapid prototypes and tackling increasingly complex concepts. Every project is run inside professional project-management methodologies based on our industry experience, so as well as building practical skills, students develop a clear understanding of what it takes to see a project through to the end.

How does the Masters course differ in content and value from what you teach undergraduates?
Our undergraduates learn how to make games. Our postgraduate students learn how to polish and publish them. As any developer will attest, polishing games is tough. We give students the dedicated space, equipment and, critically, the project-management support to help them take their prototypes all the way through to publication. Students need to think of themselves as developers first and students second – that means turning up every day and learning how to handle the glitter and doom of development.

How have you had to adapt your courses in response to the pace of change in the game industry?
When we first started the course most of our students were aiming for jobs in established studios, working on console or PC games. That's changed in the last ten years. Now they have direct access to cheap tools and distribution platforms, there's a pretty even split between applying for jobs and starting up as indie developers. Creative control is important for them, and they're (mostly) at a time in their lives when they can take startup risks that they might not be able to later in life. As such, we've developed modules that make sure students have a good understanding of the commercial considerations of self-publishing.

"Students need to think of themselves as devs first and students second"

Which tools do you teach?
We teach Unreal and Unity on the design course and C++ and C# on the programming course. We use Jira as a project-management tool across all years and courses and Github for version control. All the asset-creation tools are industry standard. At Masters level students have the experience and skills to make their own decisions about the best tools for the particular project they're working on.

What do you think students will take away with them after they graduate?
If they put in the work, they'll have gone round the development cycle around 20 times at different levels of complexity. They'll understand the tools and techniques underpinning game development, but more importantly they'll have the experience and confidence to slot smoothly into a studio position. Their first scrum or sprint-planning meeting won't be an unfamiliar experience and they'll be confident in what they can bring to the team and the projects they're working on. And if they decide to start up their own studio, we can continue to offer support and advice long after they graduate. ■





Mayers: "An English graduate might love making Twine games in their spare time. We can help them fit in as part of a development team, likewise students who come from an illustration, fine art or film background. New ideas and skills help increase the quality and variety of games we make"

GET INTO GAMES PROFILE



Coventry University

A pioneering course hoping to produce a new wave of industry artists

Location Warwickshire, UK



JASON ETIENNE
Course director, BA (Hons), Games Art
coventry.ac.uk

Currently playing: "The story and level of detail in *Detroit: Become Human* is mind-blowing. I think it has raised the bar for narrative-based adventure games. The acting, story, SFX,UI and general gameplay make for a totally immersive experience."

INDUSTRY ADVICE
"Never give up! Make sure you're always creating content that is innovative. Have a website that showcases your work. Contact as many game developers as you can, whether they are triple-A or indie, and let them know what you're doing. Have the attitude of someone who has something special to offer. Lastly, don't forget to enjoy the journey – you have an amazing future ahead of you."

Colloquially known as 'Silicon Spa', Leamington is one of the UK game industry's biggest hubs. Lying within easy reach is Coventry University, which is looking to both draw from and add to this considerable pool of industry talent with its Games Art degree. Course director **Jason Etienne** explains why budding artists should seriously consider it.



Warwickshire plays host to more than 45 companies with a little over 2000 skilled staff, comprising roughly a tenth of the UK's industry talent. Etienne says this "puts Coventry University in the prime position to be able to expose students to professionals and equip them for the industry"

What does Coventry University have to offer students looking to get into the industry?
The course has been carefully developed in conjunction with game-industry employers such as Rebellion (which recently acquired Radiant Worlds) and is designed to equip students with the distinctive skillset required to be a successful game artist – integrating art-school training with game-technology know-how and familiarity.

This is a relatively new course. What kind of research was involved in setting it up and establishing the syllabus?
We consulted with videogame companies to ascertain exactly what they were looking for from graduate Games Art students. Digital art is an ever-changing field which uses both digital drawing techniques and 3D modelling more and more.

We also looked at the future of gaming and the role that VR and AR will be playing in the years ahead. Although these formats are still relatively new frontiers, they will continue to play a bigger part of games and life in general.

Many other university courses have a grounding in programming, while this is obviously an art-led course. Does that reflect an industry need for artists with game-focused skill sets?
There are a multitude of creative courses at Coventry University, including a Games Technology course which specialises in programming. We recently had a group collaboration with this course which was very successful. It involved the development of a virtual-reality game with the use of industry-ready software.

What kind of industry connections does the university have?
We've had guest speakers from game developers in Leamington Spa, and staff members with industry experience who contribute to the course and give talks. We believe the success of the course will be predicated on outstanding teaching and an alliance with industry. We're already pushing to establish this so our students will be able to get work experience in their third year, with the intention of increasing their chances of employment after graduation.

> "The success of the course will be predicated on outstanding teaching"

Which tools will students learn and use during the course?
We begin by teaching fundamentals such as perspective and anatomy, using industry-ready software such as Adobe Photoshop – and later, introducing 3D modelling software, from Maya to ZBrush. Students are also exposed to game engines such as Unreal Engine and Unity.

What kind of expertise will Coventry University graduates leave with?
By the end of the course, the student will have learned a plethora of skills, ranging from 2D drawings – with the ability to create rough sketches through to rendered digital paintings – to 3D modelling techniques which can be used within many different fields, including SFX, rigging, animation and game engines. With the mercurial advancements in technology, we aim to future-proof students' skills and abilities to fit the workplace now and tomorrow. ■



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STUDENT WORK













www.coventry.ac.uk

GET INTO GAMES PROFILE



Location Breda, The Netherlands



ROBBIE GRIGG
Head of programming, International Game Architecture and Design
bu.nl

Currently playing: "I had a great time with *Satellite Reign*. Family commitments have let *Just Dance 2018* take priority over *Horizon Zero Dawn* more than I would like to admit."

INDUSTRY ADVICE

"It is a great time to become a game developer, with an array of amazing engines, tools and pathways to market. The key is to keep your passion burning. Get involved in developer communities, join a game jam, and build your network. From the often harsh critique, find constructive ways to improve your skills and your game."

Breda University

Harnessing industry support to prepare students for big-time development

Breda University of Applied Sciences, to give it its full title, places students in a simulated development environment for its Creative Media and Game Technology course, which is taught entirely in English. It's designed to help undergraduates develop a strong foundation in visual art, programming, design or production, before allowing them to further specialise as their game projects expand in scope. A string of successes demonstrate the benefits of its vocational approach, as head of programming **Robbie Grigg** explains.

What are Breda's key strengths?

Our industry lecturers are focused on giving students professional aptitude and experience of triple-A development. Our high standards and production values lead to students creating great portfolios, helping them achieve that dream internship or job within the game industry. We also host the Global Game Jam each year. This falls perfectly in the middle of the academic year, inspiring and reinvigorating students and often leading to interesting games, some of which end up as full published titles. Through Games' *FRU* on Xbox One is a great example that uses Microsoft's Kinect in a smart new way.

> "Our high standards and production values lead to great portfolios"

How have the partnerships with Sony and Ubisoft shaped the International Game Architecture and Design course?

The partnership with PlayStation First has given students the chance to experience development on Sony hardware and tools, making them more attractive to the top game studios. Students also get the chance to showcase their achievements to Sony developers. Ubisoft provides input on project briefs and development progress, and offers feedback on programming, design, art and production, as well as guest lectures.

Breda prides itself on presenting students with complex problems or challenges to solve. Can you give examples of this?

We look into important industry trends that will help make our students more employable. Our annual Everything Procedural conference has world-leading developers sharing new game-production practices. This has led to a Houdini outsource team that services other projects – for example, creating procedural tools to build a railroad system and tunnels for a battle-royale game called *The Survivors*. This also had the challenge of hosting up to 100 players in a single session. VR is another example: *The Red Stare*, inspired by Hitchcock's Rear Window, released on Steam VR to very positive reviews and won two Dutch Game Awards.

Is the aim to get more placements with larger companies rather than working as independent developers?

That's our target. Our aim is for students to experience development cycles of larger studios to prepare them for this. But the knowledge and experience we give them of different development cycles also supports students in starting their own companies and indies. *Kabounce*, by Stitch Heads, which recently launched on PS4, began as a third-year project. Twirlbound, recent Breda alumni, had the second-biggest game Kickstarter in The Netherlands for their title, *Pine*, which uses procedural generation and AI in exciting ways.

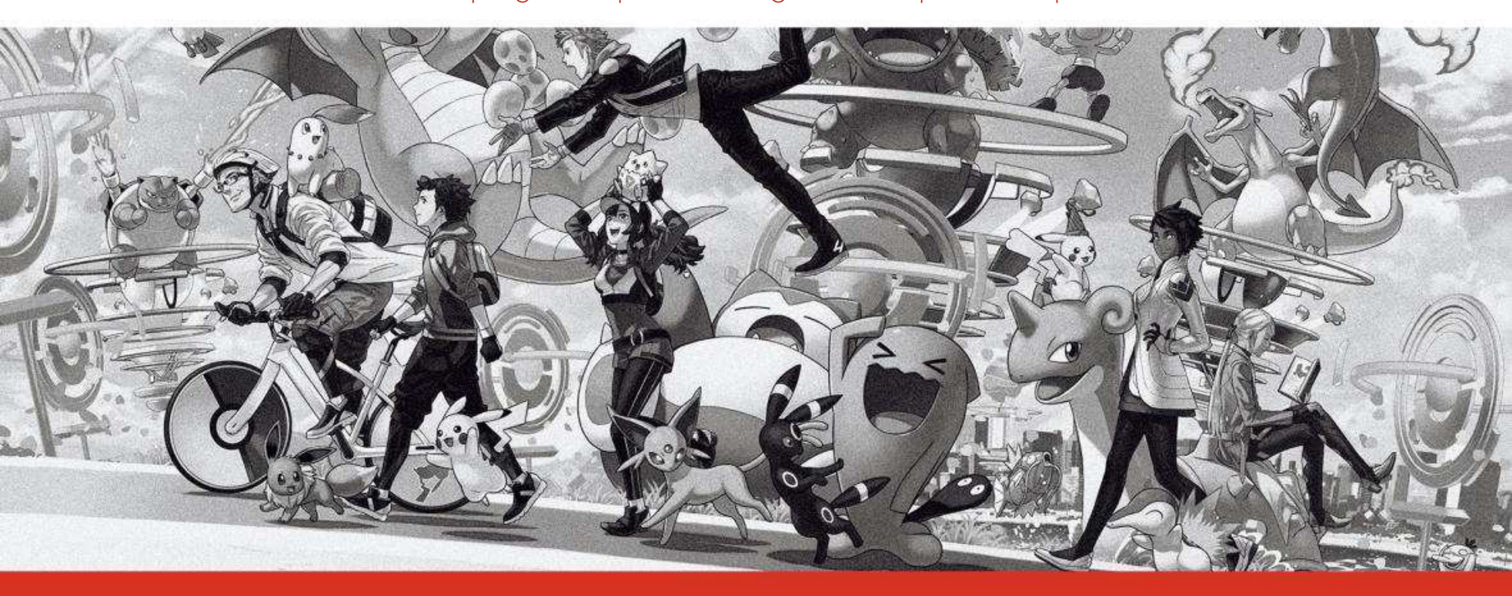


Breda University students are afforded the opportunity to work with a wide range of cutting-edge tools, including Maya, Houdini, C++, Jira, Unreal Engine 4, CryEngine, Lumberyard and Perforce

What lessons do you hope graduates take into their future careers?

An understanding of what's needed to be a great developer and a great team member. We hope that our graduates can land in any studio and be immediately effective, that they'll apply their craft professionally, and always be looking to improve. ■

A progress report on the games we just can't quit



Pokémon Go

Developer Niantic **Publisher** The Pokémon Company **Format** Android, iOS **Release** 2016

Neither the instant phenomenon it became at launch nor the fleeting fad it was later dismissed as, *Pokémon Go* is approaching its second anniversary in remarkably good shape. Its playerbase may only be a tiny fraction of what it was for that month or so where you couldn't walk anywhere without literally bumping into someone playing it. Yet it's now both more expansive and more focused than before – and much closer to capturing the collaborative ethos of the home-console games.

For those who fell off the wagon after the initial buzz wore off, we're now up to the third generation of Pokémon, though the Hoenn Pokédex isn't quite complete just yet, with new monsters being released in instalments. The recently added quest system offers a more structured experience, asking players to complete objectives that scale in challenge. Some merely require an investment of time and patience, whether it's spinning a certain number of Pokéstops or completing the long-winded process of evolving a Magikarp. Others require more skill: you'll have to practise your curveball captures if you want to get your hands on a rare Mew. And while it's still harder to get attached to individual Pokémon than in the main games, the buddy system allows you to walk with your favourite monster to gain candies that will let you either evolve it or turn it into a gym-conquering powerhouse.

Other changes are all about encouraging people to work together towards a common goal. The game now uses local climate data to spawn Pokémon boosted by specific weather types, tempting players outdoors in all conditions. Raids are a bigger draw, with powerful Pokémon requiring several players to take down. Defeating – and subsequently getting the chance to catch – Legendary Pokémon is well-nigh impossible to do alone. As such, many players have formed local raid groups, organising gatherings over Facebook Chat and the like. Rare, invitation-only EX Raids, meanwhile, present the only opportunity to obtain Mewtwo: even some dedicated trainers haven't received a pass yet, beyond one time where a glitch handed one to all players.

Frustrating as it might be to miss out, the elusiveness of these Pokémon makes them all the more special, recapturing that childlike excitement of discovering a rare monster in the originals. The other changes, meanwhile, match the console games' convivial community spirit: indeed, the regular Community Day events encourage players to visit public spaces, both for increased spawns of rarer creatures and vastly improved chances of catching a shiny variant of the Pokémon chosen as the event mascot. With global catch events and occasional cosmetic freebies besides, *Pokémon Go* continues to generously repay those who've stuck with it. ■

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